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ARCHAEOLOGICAL OVERVIEW OF FIVE LAND AND RESOURCE MANAGEMENT PLANNING SUBREGIONS: ROBSON VALLEY, PRINCE GEORGE, VANDERHOOF, FORT ST. JAMES, AND LAKES

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1.0 INTRODUCTION

This report summarizes the results of the Archaeological Overview Assessment of the Robson, Prince George, Vanderhoof, Lakes and Fort St. James Land and Resource Management Planning (LRMP) subregions. The Archaeological Overview Assessment (or simply Overview) was conducted by Arcas Consulting Archeologists Ltd (Arcas) with the assistance of Archeo Tech Associates (ethnographic research) and Range & Bearing Environmental Resource Mapping Corporation (map digitization) for the Archaeology Branch, Ministry of Small Business, Tourism and Culture. The Overview was prepared in accordance with the study proposal prepared by Arcas (September 15, 1994, revised November 14, 1994), the guidelines for an Archaeological Overview Assessment in the *British Columbia Archaeological Impact Assessment Guidelines* (Apland and Kenny 1992), issued by the Archaeology Branch, and the guidelines for an AOA in the *Protocol Agreement on the Management of Cultural Heritage Resources*, issued by the Ministry of Small Business, Tourism and Culture and the Ministry of Forests (July 1994).

The primary purpose of the Overview was to provide written and mapped information about known archaeological resources, and archaeological resource potential in each of the five LRMP subregions, to assist in resource management and land use decision making. The results of this Overview consist of four products:

(1) a report (this document), providing background information, outlining methodology, and summarizing the results of the archaeological overview for each of the five LRMP subregions;

(2) five summary reports, one for each of the five subregions, for explanatory use with the digitized maps;

(3) five sets of digitized maps, one for each of the five subregions, each set displaying the distribution of known archaeological sites and identifying areas of low, moderate, high, and unknown archaeological potential, using archaeological potential polygons;

and

(4) for each of the five subregions, two archaeological databases, electronically linked to the corresponding digitized map set, the first containing information about each archaeological potential polygon within the LRMP subregion, and the second containing information about each recorded archaeological sites within the LRMP subregion.

1.1 Definitions

It is important to note that this Overview is exclusively concerned with archaeology. It is not intended to provide a complete synthesis of information on all types of "Heritage Sites" in each of the LRMP subregions. Traditional Use Sites (defined below) are not dealt with in this study. Furthermore, this Overview does not provide a thorough review of the history or ethnography of each LRMP subregion, though considerable historical and ethnographic information has been incorporated into the study.

In order to predict archaeological potential, the Overview relied on ethnographic, archaeological, and historical information. *Ethnography* is the description of the culture of particular social groups through participatory observation and interviews with the members of that group. *Archaeology* seeks to understand the human past through the examination of material remains. Lastly, *History* may be defined as the study of the human past through the examination of documents and other written records.

In this Overview, the term "archaeological resources" is synonymous with "archaeological remains," that is, physical materials resulting from past human activity. *Archaeological sites* are places containing such material evidence, often in the form of artifacts (objects made or used by people) and alterations to the landscape (such as discarded shell accumulations, or bark-stripped trees), so that a single archaeological site may contain one or more types of archaeological resources. *Traditional use sites* are places that have been used by one or more groups of people for some type of traditional activity, often lacking physical evidence for past human use, but nevertheless of historical or cultural meaning to a living community or group.

1.2 Objectives

The primary purpose of the study was to provide a synthesis of information about the distribution of archaeological sites in the Robson Valley, Prince George, Vanderhoof, Fort St. James, and Lakes LRMP subregions, for assistance in land-use and development planning. Specifically, the objectives of the study were to:

(1) produce a major report which describes the methodology used to conduct the study, and includes: (i) summaries of previous archaeological research in each of the five LRMP subregions; (ii) discussion of the nature and distribution of archaeological resources in each of the five subregions; (iii) identification of gaps in the current archaeological inventory for each of the five subregions; and (iv) recommendations for further archaeological assessment studies;

(2) for each of the LRMP subregions, draft a set of digitized maps at a scale of 1:250,000 showing the distribution of known archaeological sites, and "archaeological potential polygons" identifying areas of low, moderate, high, and unknown archaeological potential; and

(3) construct two databases, electronically linked to the appropriate digitized map set, one containing detailed information about known archaeological sites, the second containing information about predicted archaeological resource types for each archaeological potential polygon.

1.3 Study Area

The study area for this Overview consist of five LRMP subregions: Robson Valley, Prince George, Vanderhoof, Fort St. James, and Lakes (Figure 1). The boundary of each subregion is irregular, sometimes following political boundaries, and at other times following natural divisions, such as rivers. The boundaries coincide with those of the Robson Valley, Prince George, Vanderhoof, Fort St. James, and Lakes Forest Districts.

1.4 Study Team

The members of the study team are listed on the Credit Sheet at the beginning of this report.

2.0 METHODOLOGY

For each of the five LRMP subregions, the Overview involved:

(1) background research consisting of a review of the relevant archaeological, ethnographic and paleoenvironmental literature to (i) collect information on the nature and findings of previous archaeological studies; (ii) collect information on traditional use and to identify traditional patterns of settlement; and (iii) assess past environmental conditions and their possible influence on past human adaptation;

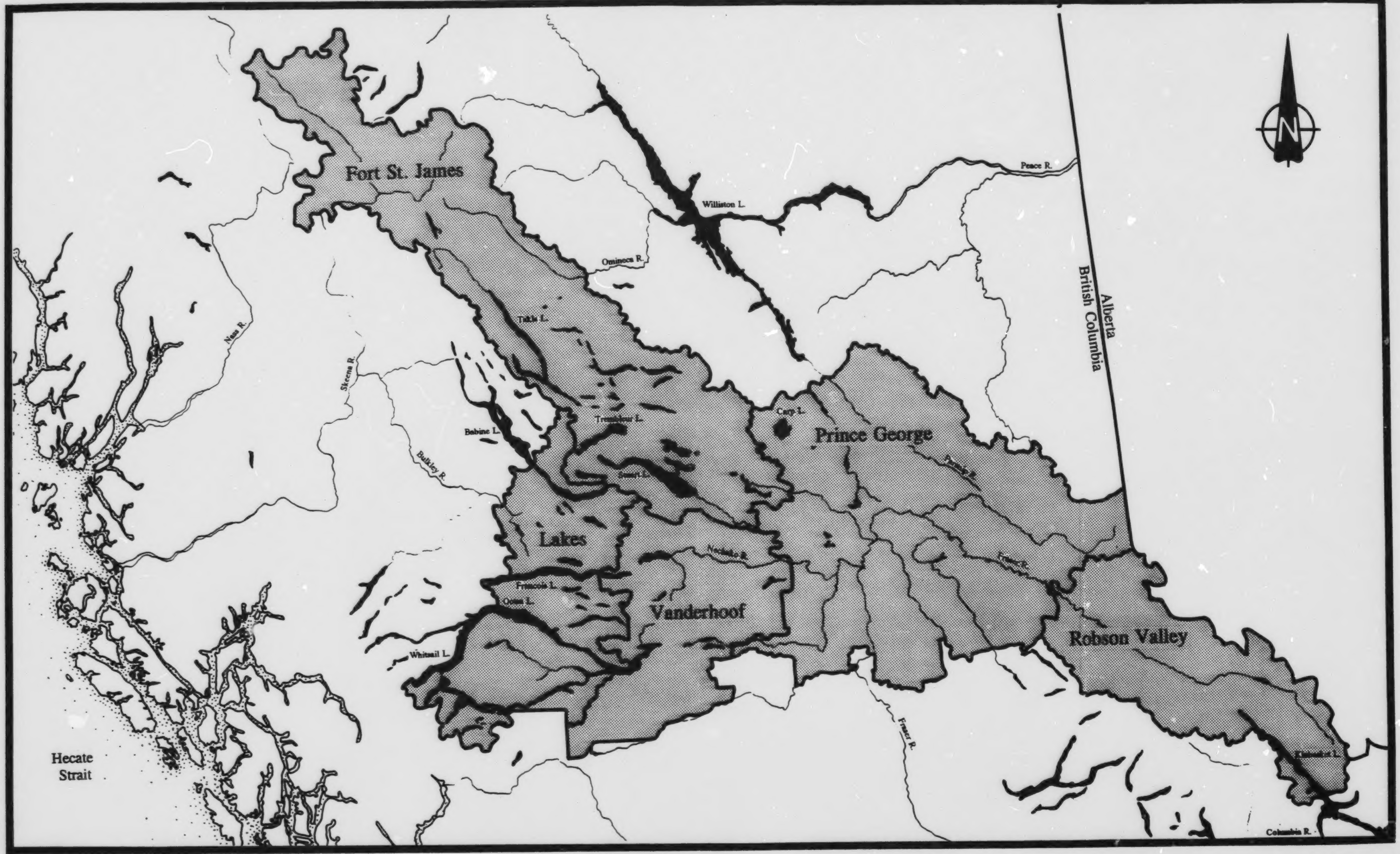
(2) background research consisting of an examination of biophysical information, including topographic and wildlife capability maps, to assist in assessing archaeological potential;

(3) a review and evaluation of existing archaeological site information using (i) the archaeological site inventory records in the Canadian Heritage Inventory Network (CHIN); (ii) 1:50,000-scale topographic maps from the Archaeology Branch showing recorded site locations; and (iii) digitized site location information as prepared by the Archaeology Branch;

(4) consultations with individuals and organizations, including local First Nations, with knowledge of archaeological resources;

(5) digital mapping of known archaeological sites as well as predicted archaeological potential based on information obtained during the investigations above;

(6) reporting.


Fort St. James
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Peace R.
Omineca R.
Takla L.
Nass R.
Skeena R.
Babine L.
Trembleur L.
Carp L.
Prince George
Parsnip R.
Stuart L.
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British Columbia
Lakes
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Figure 1. Location of the Robson Valley, Prince George, Vanderhoof, Fort St. James, and Lakes LRMP subregions.

2.1 Background Research

Background research for the Overview included a review of relevant archaeological, ethnographic, paleoenvironmental, and biophysical publications, professional reports, and archival records in the possession of Arcas and Archeo Tech Associates, and from the Archaeology Branch, Department of Indian Affairs, B.C. Archives and Records Service, Royal British Columbia Museum, and other sources. Ethnographic information was compiled and reviewed by John Dewhirst (Archeo Tech Associates), while Richard Brolly and Mary Quirolo (Arcas) examined literature pertaining to regional archaeology and natural history. Information regarding recorded archaeological sites in the study area was obtained from CHIN and the Archaeology Branch by Karen Preckel (Arcas).

2.2 First Nations Consultation

Consultation with First Nations communities consisted of letter, fax, and telephone correspondence. Initially, each First Nation and Tribal Council thought to have a traditional interest in part of the study area was informed by fax of the nature and scope of the study. The First Nation and Tribal Councils to be contacted were identified by the Aboriginal Forest Advisors from the five Forest Districts in the study area. The correspondence included a request for any information about archaeological sites which the First Nation or Tribal Council would be willing to contribute. Further inquiries were made by telephone to ensure that the First Nations and Tribal Councils received our communication and understood our request. In a few cases, a First Nation requested additional information about the study and/or the principal researchers, and this information was sent by mail.

The First Nations and Tribal Councils initially contacted were: Broman Lake Band, Burns Lake Band, Canim Lake Indian Band, Carrier-Chilcotin Tribal Council, Carrier-Sekani Tribal Council, Cheslatta Band, Cheslatta-Carrier Nation, Fort Connelly Band, Fort George Band, Gitksan Treaty Office, Kluskus Indian Band, Lake Babine Band, Lheit-Lit'en Nation, McLeod Lake Indian Band, Nadleh Whut'en Indian Band, Nak'azdli Indian Band, Nak'azdli Indian Band, Nazko Indian Band, Nee Tahi Buhn Band, North Thompson Band, Portage Band, Tl'azt'en Nation, Red Bluff Indian Band, Shuswap Nation Tribal Council, Skin Tyee Band, Stellaquo Indian Band, Stoney Creek Indian Band, Takla Band, Tl'azt'en Nation, Ulkatcho Indian Band, and Wit'suwet'in Treaty Office.

The majority of First Nations did not respond beyond acknowledgement of receipt of our facsimile message and telephone call. Two written responses were received, one from Gordon Sebastian, Gitksan Speaker from the Office of the Hereditary Chiefs of the Gitksan and Wet'suwet'en People, and the other from Tribal Chief Lynda Prince of the Carrier Sekani Tribal Council. Contents of these letters are discussed below.

Only one request for a meeting to discuss the study was received from any of the First Nation contacted. This request came from Gitksan Speaker Gordon Sebastian. A meeting took place in Hazelton in early February, attended by Arnoud Stryd and Mary

Quirolo of Arcas, and Gitksan Speaker Gordon Sebastian. At the request of Arcas, Stryd and Quirolo met in Prince George with Richard Krehbiel, Treaty Negotiations Coordinator for the Carrier Sekani Tribal Council. Lastly, Stryd and Quirolo initiated an impromptu meeting at Moricetown with Sandra Martin, Darlene Glaim and Ken George of the Kyah Wiget Education Society of the Wit'suwit'en Nation. Decisions about the advisability of consultation about the LRMP study were deferred to Marvin George of the Wit'suwit'en Treaty Office who was not at this meeting. When later telephoned, Marvin George declined to meet with us.

Most of the First Nations that were contacted did not respond. The letter received from the Carrier Sekani Tribal Council typifies the position of those groups that did respond. This letter, dated November 1, 1994, and captioned "without prejudice and without consultation", said that the Carrier Sekani Tribal Council formally declined participation in LRMP processes in their traditional territories. A number of related issues were addressed in the letter. Most pertinent to this study are the following paragraphs:

> We confirm that the Carrier Sekani Tribal Council (CSTC) and its member First Nations, have declined to participate in LRMP processes in our traditional territories. We have concluded that these processes are inappropriate to our government-to-government relationship with the Provincial Crown, and that they have every potential to permanently undermine our aboriginal rights and our ability to enter into just treaties with the federal and provincial governments. We view the process in which you are involved as an attempt by the Ministry of Forests to manoeuvre First Nations into "back door" participation in the LRMP processes which we have rejected "upfront".
>
> We therefore confirm that the CSTC expressly and respectfully declines to share any information in our possession about archaeology sites ... We will deal with protection of our heritage through more appropriate treaty, interim measures and other government-to government negotiation processes.

In a subsequent meeting with Richard Krehbiel, Treaty Negotiations Coordinator for the Carrier Sekani Tribal Council, Mr. Krehbiel discussed how participation in the LRMP process would unavoidable prejudice aboriginal land claims and treaty negotiations. He stressed the need for meaningful government to government consultation, and clearly indicated that the meeting should not be construed as consultation.

Gordon Sebastian, Gitksan Speaker, met with Quirolo and Stryd but declined consultation, indicating that the Gitksan Nation had far more to lose than to gain by participation in the LRMP study, or in any similar project in which First Nations concerns had not been directly addressed in the initial planning stage. In particular, Mr. Sebastian noted that: (1) the Terms of Reference are not wide enough to be of use to the Gitksan, pointing out that First Nations were not consulted when the Terms of Reference were drawn up; (2) while archaeological work may be unbiased, its application is not unbiased; and (3) in his opinion, it is of no use to protect an archaeological site if the cultural and natural reasons for the past activities that formed the site are destroyed or disrupted to the point that similar present or future activities at the site cannot take place. The need for First Nation participation in the establishment of Terms of Reference for the LRMP studies was also noted by Marvin George of the Wit'suwit'en Treaty Office.

2.3 Other Consultation

The Overview was initially discussed by telephone with representatives of all five Forest Districts in the study area. All expressed interest in the study, and offered to provide whatever information they had on traditional use and archaeological sites in their districts. In some cases, confidentially agreements prevented release of traditional use information. Available information was sent to Arcas, and subsequently made available to Archeo Tech Associates for the ethnographic component of the study.

Meetings were held with representatives of three of the five forest districts (Lakes, Prince George, Vanderhoof) to discuss the preliminary findings of the Overview.

2.4 Review of Known Archaeological Sites

One of the primary goals of the Overview was to produce written and mapped information about the recorded archaeological sites in the study area.

2.4.1 Archaeological Typology

The archaeological site typology utilized by the Archaeology Branch for recording archaeological sites was used to classify the kinds of archaeological sites already known in each LRMP subregion. Generally speaking, sites are divided into two classes: prehistoric and historic. For the purposes of this study, "prehistoric" refers to remains resulting from traditional aboriginal activities, whereas "historic" refers to remains resulting from non-aboriginal settlement and land use, or non-traditional aboriginal activities. Most of the prehistoric sites in the study area were occupied before first contact with Europeans early in the 19th century, but it is possible that some sites classified as "prehistoric" may post-date this initial contact because they represent traditional activities.

Eight prehistoric archaeological site types were used in this study. Following the typology used by the Archaeology Branch, these are defined as follows:

- Cultural Materials: These sites include such archaeological remains as stone artifacts and the waste products of stone tool manufacture, fire-altered rocks, and bones representing animals consumed by prehistoric First Nations people. A given site may contain one or more of these materials. Most sites of this type contain only stone artifacts scattered around the surface, and are normally considered to represent transitory, seasonal camps occupied during hunting, fishing, and other resource gathering expeditions. Other types of prehistoric activities that would be represented by such sites include locations of overnight camps along travel routes, aboriginal forest utilization sites, and quarries for lithic raw resources.

- Earthworks: These sites include features such as earthen ridges and mounds constructed by prehistoric First Nations people for various purposes, but are not related to other listed categories such as subsistence or habitation. Prehistoric earthworks are extremely rare throughout the study area.

- Habitation: These sites include the physical remains and surficial features normally associated with places used for semi-permanent seasonal [usually winter] habitation. These sites usually consist of clusters of features including pithouse depressions or platforms for matlodges, and pits used for food preparation and storage, post holes, and fire hearths. Associated archaeological remains frequently include faunal remains, fire-altered rocks, charcoal, waste products from stone tool manufacture, and artifacts. Burial places are also likely to be found in association with habitation sites.

- Human Remains: These sites are places where First Nations people interred their dead. Typically, they include physical remains and surface features typically associated with mortuary practices.

- Petroform: These sites include constructed stone features such as cairns, and geometric, zoomorphic, or anthropomorphic alignments. Few petroforms are recorded in the study area. However, they are frequently associated with prehistoric site complexes in alpine environments, particularly in the Rocky Mountains. Such environments have not been surveyed in the LRMP study areas.

- Pictographs: These sites are red ochre paintings produced by First Nations artisans. In the study area, pictographs are normally found on vertical exposures of smooth, fine-grained bedrock or on very large boulders.

- Subsistence Features: These sites include surficial features as animal drives, food preparation and storage pits, stone fishtraps and wooden fish weirs, and meat/fish drying racks.

- Trail: This site type refers to overland travel routes traditionally utilized by First Nations people. Trails might be expected to be found on portage routes from one drainage system to another, or providing access through montane environments. Montane or alpine passes are very frequently associated with trail networks. Furthermore, transportation routes utilized by Euro-canadian traders and prospectors were usually congruent with the routes of aboriginal trails.

Fourteen historic archaeological sites types are defined as follows:

- Commercial: This category includes commercial enterprises such as fur trading posts and forts, a bank, and a hotel among the known sites, but other mercantile establishments such as general stores are probably more common.

- Communications: In the study area, this category includes only post offices among known sites, but telegraph line shacks, newspaper offices, and telephone exchanges represent additional sites likely to occur.

- Cultural Materials: These sites include manufactured goods and household refuse resulting from a variety of historical activities, but do not usually refer to sites where identified structural features are present.

- Education: In the study area, a single school building represents the only known site of this type.

- Farming, Ranching: This category of site includes structural features associated with agricultural activities, such as farmhouses, outbuildings, barns, and "tether stakes", among known sites in the study area.

- Government: In the study area, a police station and a [forest] ranger station are the only sites of this type known to occur.

- Habitation: These sites include physical remains and surficial features associated with historic settlement by First Nations and Euro-canadian people. Known types from the study area include cabins, house depressions, foundations and earthworks, and entire historic townsites.

- Human Remains: In the study area known sites of this type include historic cemeteries, isolated graves, and traditional grave houses.

- Industrial: This category of site is associated with historical manufacturing or resource extraction industries, and in the study area are represented by placer and lode mining workings, but could also include sawmilling sites, fisheries, and hydroelectric plants.

- Medical: In the study area, a single hospital building represents the only known site of this type.

- Religious: A church represents the only recorded site of this type in the study area. Missions also occur, but have not as yet been recorded as sites.

- Social: This category of site includes structures and objects used by communities for social gatherings or memorials. In the study area, a "message tree" and a stone cairn are the only known sites of this type, but community halls and lodge buildings could also occur.

- Subsistence Feature: This category of site includes structures and features utilized for hunting and fishing, as well as for vegetable and meat storage by First Nations people and others. In the study area, fishing stations, fish weirs, drying racks, smokehouses, pitfall traps, root cellars, and caches represent this type of site.

- Transportation: In the study area, this class of site includes ferry cable towers, wagon roads, individual canoes, trails, and a railway station. However, other railway structures and rolling stock, tunnels and bridges, and wharves probably also occur.

2.4.2 Reviewing Known Site Locations and Numbers

For digital mapping purposes, site locations were treated as point data. A digital file containing known site locations with associated site (Borden) numbers was provided by the Archaeology Branch. The locational information in this file consisted of Universal Transverse Mercator Projection or digitized point locations from the Branch's set of 1:50,000 NTS maps. This file was reviewed to determine the accuracy of its content, and sites outside the study area were deleted from the dataset. The Borden numbers of the sites in the digital file were also checked for accuracy.

The accuracy of the sites' locational information was then reviewed. Test plots showing the locations of the sites as recorded in the digital file were prepared, and compared with site locational information on the 1:50,000 NTS maps of the B.C. Archaeological Site Inventory. Corrections to the digital file were then made as needed.

The accuracy of site numbers in CHIN were also checked against the numbers assigned to each site on the 1:50,000 NTS maps of the B.C. Archaeological Site Inventory. Any corrections needed to the CHIN site numbers were noted.

2.4.3. Dataset

Two electronic datasets were produced as part of this study. Dataset I consists of information on archaeological potential and is discussed more fully in Section 2.5.3. Dataset II consists of information on known archaeological sites in the study area and is discussed here.

Dataset II consists of a database in Arc-Info Export format linked electronically with the digital maps showing known archaeological sites and site potential. Each known archaeological site in the study area is a record in the dataset. A separate dataset was prepared for each LRMP. The structure of the datasets was established by the Archaeology Branch. Six attributes were entered for each site, each in a separate field within the database structure. The attributes (with field name abbreviations as suggested by the Archaeology Branch) are:

(1) **Borden number** (BORD_NO) -- This is the site number (Borden number) for the known site.

(2) **Major site type** (K_STYP1) -- This is the first major site type at the known site using the Archaeology Branch site typology.

(3) **Sub site type** (K_STYP1_S) -- This is the sub site type, if present, at the known site using the Archaeology Branch site typology. Additional sub site type fields may be added as needed.

(4) **Descriptor** (K_STYP1_D) -- This is the descriptor for the first major site type using the Archaeology Branch site typology.

(5) **Area** (K_S_AREA) -- This is the area of the known site in m^2.

(6) **Permit** (PERMIT) -- This is the Permit Number for any studies associated with the known site, as provided from CHIN.

2.5 Archaeological Potential Assessment

One of the goals of the Overview was to produce written and mapped information about archaeological potential in the study area.

Although historic archaeological sites were included in the known sites database and were plotted on the digitized maps, information about post-1846 Euro-canadian archaeological sites was, at the instruction of the Archaeology Branch, not included in the archaeological potential assessment. Historic sites often incorporate ruined or intact structural remains ("built heritage", including residences, and outbuildings), but may also include historic roads and trails, single objects such as abandoned machines, and featureless sites such as garbage dumps.

2.5.1 Archaeological Potential Assessment Approach

Assessment of archaeological potential was based on: (i) consideration of the locations and distributions of previously recorded archaeological sites; (ii) information on traditional land and resource use patterns and traditional use sites locations; and (iii) topographical and biophysical characteristics. Potential mapping was conducted under the premise that archaeological site locations are often correlated with certain micro-environmental characteristics, and that the presence or absence of these variables can be used to predict the likelihood of sites.

The results of previous archaeological inventory studies conducted in the study area and ethnographic information on traditional resource use and settlement patterns have been used to model the relationships between archaeological resource distributions and biophysical characteristics (see section 6.0 below). Unfortunately, many appropriate micro-environmental attributes cannot be accurately mapped at a scale of 1:250,000, and some of these are particularly important for assessing archaeological potential. For example, specific landform types with high potential for containing archaeological remains (e.g., fluvial terraces), will not usually be identifiable on maps where the contour interval ranges between 100 and 150 m as they do on 1:250,000 scale maps. Again, areas of wetland normally cannot be plotted on maps with such a small scale. On the other hand, all kinds of permanent water bodies, from tertiary streams to very small lakes, have high visibility on 1:250,000 scale maps.

2.5.2 Archaeological Potential Assessment Variables

Nine variables were selected as being both significant for predicting archaeological potential and mappable at a scale of 1:250,000. Not all of the variables are present in every subregion. For example, significant lithic raw material sources are not known to be present in the Robson Valley LRMP subregion, and so this variable was not used for that LRMP. The nine variables are:

(1) **Aspect**: This refers to the direction of slope, where it is considered that locations with a western or southern exposure would receive greater solar exposure and therefore be more congenial for residency. Conversely, locations with a northern or eastern exposure receive less solar exposure would normally be regarded as unfavourable habitation sites (for example, remaining snowbound longer in spring). At the scale of the present study, archaeological potential polygons that encompass all possible aspects proved to be the rule, rather than the exception. For the most part this variable was rarely more than of moderate significance for predicting archaeological potential in this part of the province.

(2) **Potable Water**: This refers to proximity to a fresh water source, which has implications both for subsistence and transportation. Potable water is a prime consideration for the location of habitations of all kinds, and is also necessary for some types of resource processing activities. Certain types of traditional freshwater fisheries are also subsumed under this variable, but anadromous salmonid fisheries justify a separate variable. Also, watercourses are often prime locations for trade and travel routes, particularly in montane environments. At the scale of the present study, freshwater sources are extremely abundant, and furthermore, their quality cannot be evaluated. For this reason, the presence of this variable was not usually of more than moderate significance for predicting archaeological potential.

(3) **Salmonids**: This variable refers to rivers, streams, and lakes in which anadromous salmon runs occur. In the central interior subregions that are the subject of this study, the Fraser - Nechaco River and Sustut - Skeena River systems support salmon runs, while the Omineca - Parsnip drainages do not. For the purposes of this study, all rivers and second-order streams in the

Fraser - Nechaco and Skeena - Sustut Basin are considered to support salmon runs. Lakes must be directly connected to rivers, or connected to rivers by second-order streams at least, to be considered to have salmonid potential. Where present, salmonid-bearing waters are considered to be of moderate or high significance for predicting archaeological potential.

(4) **Ungulate Capability**: This information is acquired from Canada Land Inventory (C.L.I.) maps, and refers to the ability of lands to support ungulates. Ungulates in this study include elk, deer, moose, caribou, bighorn sheep, and mountain goats. C.L.I. mapping ends at 56° North latitude in northwestern B.C., so this variable cannot be assessed in the northern part of Fort St. James subregion. For the purposes of this study, lands of Class 3 or better are normally considered to influence archaeological resource potential. However, mountain goats, caribou, and bighorn sheep usually summer in lands which are mapped as Class 4 or 5. In the Prince George and Robson Valley subregions, areas with Class 4 or 5 ungulate capability for these species were considered to be of moderate significance for predicting archaeological potential. Elsewhere, ungulate capabilities rated as Class 2 or Class 3 are considered to be of moderate to high significance for predicting archaeological resource potential.

(5) **Waterfowl Capability**: This information is also acquired from C.L.I. maps, and refers to the ability of lands to support waterfowl. Waterfowl in this study include geese, ducks, and swans. Again, this mapping ends in northwestern B.C., and this variable cannot be assessed in the northern part of the Fort St. James subregion. Highly-productive waterfowl lands are very scarce in the study area, so lands of Class 5 or better are considered to influence archaeological potential assessment. Although very rare in the study area, waterfowl capabilities rated as Class 3 or better are considered to be of at least moderate significance for predicting archaeological resource potential.

(6) **Lithic Raw Resources**: This refers to sources of stone which were used by First Nations people for tool manufacture. Such sources are either very scarce or absent in the eastern part of the study area, and this variable is not used in the Robson Valley subregion. Occurrences of lithic raw resources are generally scattered throughout the southern part of the Vanderhoof and Lakes subregions, and where thought to be present, are at least of moderate significance for predicting archaeological potential.

(7) **Lakes**: This variable is separated from the undifferentiated "freshwater" variable in all but the Robson Valley subregion. Archaeological studies in the western and southwestern part of the study area indicate that lakeshores and islands in lakes frequently have high archaeological site densities. Where lakes are present, they are of moderate or high significance for assessing archaeological potential. Small lakes or clusters of small lakes in montane or

alpine environments represent a special case, but are usually assessed as being of at least moderate significance for predicting archaeological potential in such locations.

(8) **Montane/Alpine Topography**: This refers to steep, mountainous terrain where few types of traditional activities were carried out, or where traditional activities were carried out which left few recognizable archaeological remains. In the eastern part of the study area, this terrain is dominated by mountainous terrain including extensive areas of alpine tundra and glaciers. In the south-western part of the study area, the terrain assessed with this variable is more properly regarded as hilly, but is still deficient in both fresh water and ungulate values. Where present, this variable is of moderate to high significance for predicting low or unproven archaeological resource potential.

Exceptions to this rule are alpine grasslands characterized by gently rolling to flat terrain, which are considered to be of unproven or moderate archaeological resource potential, particularly where associated with transportation corridors.

(9) **Transportation Corridor**: This variable refers to locations which are or could be utilized by First Nations people as convenient travel routes. Known aboriginal trails as recorded in historic and ethnographic sources were identified and included in the mapping whenever possible. The corridors typically include river valleys and lakes, but also montane and alpine passes, including stream valleys leading up to passes. Travel routes are usually considered to be of moderate importance for predicting archaeological potential. However, alpine passes, particularly those crossing the Continental Divide or those separating between major drainage basins, are considered to be of high significance for assessing archaeological resource potential.

2.5.3 Dataset

Two electronic datasets were produced as part of this study. Dataset II provides information on known archaeological sites in the study area (see Section 2.4.3). The second dataset (Dataset I) provides information about known and assessed archaeological values for each archaeological potential polygon in the study area.

Dataset I consists of a database in Arc-Info Export format linked electronically with the digital maps showing known archaeological sites and archaeological potential. Each archaeological potential polygon in the study area is a record in the dataset. A separate dataset was prepared for each LRMP. The structure of the datasets was established by the Archaeology Branch. Six attributes were entered for each polygon, each in a separate field within the database structure. The attributes (with field names or abbreviations as suggested by the Archaeology Branch) are:

(1) **Polygon Number** (POLY_NO) -- These are unique identifying numbers for each archaeological polygon (1, 2, 3, etc.).

(2) **Potential** (POTENTIAL) -- The archaeological potential value (High, Moderate, Low, or Unproven) reflects the topographic and biophysical suitability of a mapped area (polygon) for those kinds of past human activity that could have occurred in the subregion and would have left archaeological evidence. High potential areas exhibit topographic and biophysical characteristics that are highly supportive of past activities that would have left archaeological evidence; Moderate potential areas have biophysical characteristics that are moderately supportive of such activities; and Low potential areas exhibit few biophysical characteristics supportive of such activities. Polygons with Unproven potential are those which exhibit biophysical characteristics which may be supportive of past activities, but a lack of archaeological investigations does not permit assignation of a Low, Moderate, or High potential rating.

(3) **Assessment Confidence** (CONFIDENCE) -- An assessment confidence rating of high, medium or low is assigned to each polygon, with the exception of polygons of Unproven potential. *High* assessment confidence applies to (1) polygons which encompass areas that have been relatively intensively investigated by previous researchers, so that assessments are based on considerable data. *Medium* confidence has been assigned to polygons within which some research has been conducted, but not in an intensive or systematic nature, or to polygons encompassing areas with biogeographical and environmental attributes directly comparable to those in nearby, better-studied locations at which archaeological investigations have taken place. *Low* confidence was assigned to polygons within which very little or no previous archaeological research has been conducted, and for which no cultural and/or biogeographic analogue exists.

(4) **Predicted Archaeological Site Types: Prehistoric** (P_S_TYP1…N) -- This field lists the types of prehistoric archaeological sites anticipated in a particular polygon.

(5) **Predictive Variables** (VARNAME1…N) -- This field names the variables that are significant for predicting archaeological potential. Data values for each variable are entered as follows:

2 = Presence of variable supports the prediction
1 = Presence of variable does not support the prediction
0 = Variable was not used in prediction

(6) **Level of Significance** (SIG_VNAME1…N) -- Data in this field indicates the level of significance that is placed on each variable used to predict archaeological potential. Data values for level of significance were entered as follows:

3 = High significance in predicting archaeological potential
2 = Moderate significance in predicting archaeological potential
1 = Low significance in predicting archaeological potential
0 = No significance in predicting archaeological potential

2.6 Mapping

Two sets of archaeological maps were prepared for each LRMP subregion in the study area. For each subregion, one set of maps was prepared at a scale of 1:250,000, and contains as many map sheets as required to cover the entire subregion. The second set consisted of a single map sheet showing the entire LRMP; the scale of the second map varies according to the size and configuration of the subregion. In both map sets, each map shows known archaeological sites and archaeological potential.

Known archaeological sites are shown on the maps as black triangles. Site numbers (Borden numbers) are not shown; these can be obtained only from the database attached to the digital version of the maps.

Each area of archaeological potential is mapped as a polygon. The polygons vary in size and shape. A different colour is used for each potential value (that is, High, Moderate, Low, and Unproven). Polygon numbers are not shown; these can be obtained only from the database attached to the digital version of the maps.

3.0 PHYSICAL SETTING

The study area falls within two major physiographic regions (Ministry of Forests and Lands Research Branch 1985, 1988; Valentine *et al.* 1978). The Robson Valley LRMP subregion lies in the northern end of the Columbia Mountains and Southern Rockies physiographic region, and is bordered at the northwest by the Interior Plateau physiographic region within which the Prince George, Vanderhoof, Fort St. James, and Lakes LRMP subregions are located.

Specifically, the Robson Valley LRMP subregion includes the part of the Rocky Mountain Trench encompassed by the Cariboo Mountains and the Rocky Mountains, and includes a part of the Fraser Basin at its northeast boundary. The Prince George and Vanderhoof LRMP subregions lie in the Fraser Basin portion of the Interior Plateau. The Lakes LRMP subregion encompasses part of the Babine Upland, the Bulkley Basin, and the Nechako Plateau portions of the Central Interior Plateau. The Fort St. James LRMP subregion lies on the Nechako Plateau portion of the Interior Plateau. As a whole, the physiographic location of all five LRMP subregions may be referred to as the Central Interior of British Columbia.

3.1 Post Glacial Geomorphology

Much of the characteristic landscape of the Central Interior, including plateaus, eskers, drumlins, meltwater channels, lacustrine deposits, and kettled deposits, is the result of Pleistocene glaciation, modified by Holocene warming and later neoglacial episodes (Tipper 1971; Clague *et al*. 1987; Ryder 1975). In the upper Fraser River basin, sedimentary deposits of two glaciations have been identified. Older, possibly early Wisconsinan, till deposits are overlain by Late Wisconsinan drift that was deposited early in the Fraser Glaciation when glaciers advanced across the Central Interior from the Coast and Columbia Mountains. At that time, many streams were aggrading in response to climate change and resultant increases in sediment production. Fraser glacial advances also disrupted drainages and impounded large lakes in some Interior Plateau valleys. At the end of the Fraser glaciation, glaciofluvial and glaciolacustrine sediments were deposited on the eroded remains of these earlier layers.

Precise time of initial deglaciation in the Central Interior of British Columbia has not been determined, but deglaciation may have been complete before 10,000 ± 90 BP. Deglaciation was accompanied by sedimentation, and by intense reworking and redistribution of glacial drift, through aggradation along rivers, alluvial fan deposition, and lacustrine sedimentation (Clague *et al*. 1987; Ryder 1975). The physical landscape was strongly affected by Holocene climatic changes commencing immediately after deglaciation. These later, post-glacial changes, which were related to changes in sea levels and meltwater pondages, included downcutting in many valleys, resulting in terraces cut into moraine, fluvial, and lacustrine sediments.

3.2 Paleoenvironment

Climate warming occurred quickly, either just before or during deglaciation, about 10,000 years ago. Following deglaciation, a relatively warm, dry interval corresponding to the Hypsithermal occurred from approximately 8000 - 6000 BP, with the postglacial thermal maximum occurring at about 6000 years ago (Ryder 1975; Hansen 1955). Three relatively cooler, moister neoglacial episodes followed the Hypsithermal, at 5800 - 4900 BP, 3300 - 2300 BP, and 1000 BP to the present.

Vegetation of newly exposed surfaces proceeded rapidly (Ryder 1975: 19). Surprisingly, trees were immediate postglacial flora, with no indication of an intervening tundra stage. Although studies of post-glacial vegetation sequence studies are incomplete within the Robson Valley, Prince George, Vanderhoof, Fort St. James, and Lakes LRMP subregions, a general pattern is presented, based on palynological analyses of bog sections within and near the study areas (Hansen 1955). Lodgepole pine is predominantly represented in the lowest (earliest) post-glacial pollen profiles. According to Hansen (1955: 647), the "initial postglacial invasion of lodgepole pine is assumed to be on deglaciated terrain . . . the record of lodgepole represents its upland succession and it would seem that conditions have been favourable for this species during the entire postglacial". Other *Pinus spp.*

considered include ponderosa pine, sparsely present in the area just south of Prince George prior to 6500 years ago, but no longer present in this area.

3.3 Modern Environment

Local flora in the northern Interior Plateau are dominated by Engelmann, black and white spruce, and subalpine fir; western hemlock and western red cedar occur in lower, moister locations in the Rocky Mountain Trench. Throughout most of the LRMP subregions, willows and small deciduous trees such as birch and alder form the understorey; and Cariboo aspen and lodgepole pine occur in the southern part of the Prince George, Vanderhoof, and Lakes LRMP subregions. Major fauna include mule and white-tailed deer, moose, coyote, black bear, grizzly bear, grouse, and freshwater and anadromous fish. Migratory waterfowl are occasionally present, but land capability to support waterfowl is moderately to severely limited throughout the five LRMP subregions.

A summary of the modern natural setting of each LRMP subregion follows.

3.3.1 Robson Valley LRMP Subregion

The Robson Valley subregion lies within the Rocky Mountain Trench at the northeastern edge of the Canadian Interior Plateau, in the northern part of the Columbia Mountains and Southern Rockies physiographic region (Ryder 1978; Rousseau and Muir 1991). Within this physiographic region, high peaks are flanked by deep valleys; terrain is rugged, and avalanching occurs on steep valley sides at all elevations.

The subregion includes the Cariboo and Rocky Mountain belts and the Rocky Mountain Trench. The steep-sided Rocky Mountain trench lies at about 750 m, bounded by mountains whose summit elevations range from 1500 - 1800 m. The highest peaks, never overridden by glaciers, are serrate; lower peaks are somewhat more rounded.

This area of high vertical relief exhibits strong climatic gradients (Wittneben and Lacelle 1978: 137). Relative to the adjacent Interior Plateau, precipitation is heavy, from 100 - 250 cm annual totals. Summers are cool, and winters are cold, with mean annual temperatures ranging between 16° and 20° C in July, and between - 5° and - 10° C in January. Steep terrain and high precipitation combine so that valleys receive fewer hours of sunshine than biogeoclimatic regions to the east and west.

Varied relief and climate result in a number of biogeoclimatic zones, including: the Interior Mountain Hemlock Zone in open valleys and on slopes receiving the highest precipitation; the Sub-boreal Spruce Zone southward within the more dry Rocky Mountain Trench; the Interior Douglas Fir Zone at middle altitudes; the Subalpine Englemann Spruce - Subalpine Fir Zone at higher elevations; and the Alpine Tundra zone on high mountain peaks (Jones and Annas 1978; Schaefer 1978).

The abundant wetlands of the Rocky Mountain Trench provide habitat for moose and other large mammals, including caribou, blacktail and mule deer, coyotes, wolves, black bears, and freshwater fish and anadromous salmonids (Rousseau and Muir 1991). Mountain goats and grizzly bears are reported at higher elevations (Cowan and Guiguet 1965). The climate of the mountains, valleys, and floodplains in the Robson Valley LRMP subregion pose severe limitations to waterfowl, but grouse are common (Environment Canada Lands Directorate 1975).

3.3.2 Prince George LRMP Subregion

The Prince George LRMP subregion is in the Fraser Basin subregion of the Interior Plateau Physiographic region. It lies in the rainshadow of the Coast and Cascade Mountains, and is dry relative to coastal and more mountainous parts of British Columbia (Ministry of Forests and Lands Research Branch 1985). Open valleys receive between 400 - 600 mm of precipitation per year, while precipitation in the uplands may reach 750 mm per year (Schaefer 1975). About 40% of precipitation occurs as snow. Summers are short, with July temperatures averaging 12 - 18°C. Winters are long and cold, with January temperatures between - 12°C and - 20°C, and frost penetration may reach 50 cm or more. The dominant landscape features of the Fraser Basin are the extinct and present-day Fraser River terraces, and the Fraser River and its tributaries.

Most of the Prince George LRMP subregion is within the Sub-boreal Spruce Biogeoclimatic Zone, bordered along the Rocky Mountains to the northeast by the wet, cold, Central Forested Englemann Spruce - Subalpine Fir Biogeoclimatic Zone. The Sub-boreal Spruce Zone can be subdivided into regional variants, reflecting differences in altitude, temperature, and precipitation from north to south.

Dominant animal species within the Prince George LRMP subregion include moose, caribou, elk, blacktail and mule deer, coyote, wolf, bear, and freshwater fish and anadromous salmonids. Mountain goats are reported at higher elevations (Cowan and Guiguet 1965). Ungulate capability throughout the non-mountainous portion of the subregion ranges is moderate to high, with high capability along the larger river valleys. Climatic capability throughout the Prince George LRMP subregion poses severe limitations to waterfowl (Environment Canada Lands Directorate 1975); however, migratory and nesting waterfowl are seasonally present in favourable areas, such as Carp Lake Provincial Park. Anadromous salmonids are present in the Fraser River drainage, and freshwater fish occur, sometimes in great abundance, in streams and lakes.

3.3.3 Vanderhoof LRMP Subregion

The Vanderhoof LRMP subregion is in the Nechako Plateau district of the Interior Plateau. It lies in the rainshadow of the Coast and Cascade Mountains, and is dry relative to the coastal and mountainous parts of British Columbia. The open valleys of the Interior Plateau receive between 400 - 600 mm of precipitation per year, while precipitation in the uplands may reach 750 mm per year (Schaefer 1975). Mean annual temperature is 3° C, reflecting short, warm summers and long, cold winters, when frost penetration may reach or more 50 cm below the ground surface.

The dominant landscape feature of the Nechako Plateau is an erosional surface, with varying degrees of dissection; the northerly portions of the Plateau are more dissected than the more southerly Vanderhoof LRMP subregion. The part of the Nechako Plateau in this subregion consists of generally flat to rolling terrain at elevations of 750 - 1000 m, with uplands and peaks rising above 1200 m.

The Vanderhoof LRMP subregion is primarily within the Sub-boreal Spruce Zone, while vegetation typical of the Englemann Spruce - Subalpine Fir Zone is present at higher elevations.

Animal species within the Vanderhoof LRMP subregion include moose and other large mammals, including mule and blacktail deer, coyote, wolf, bear, and freshwater fish and anadromous salmonids (Cowan and Guiguet 1965). Ungulate capability throughout the study area generally ranges from moderate to high, and is high in larger river valleys. Climate poses severe limitations to waterfowl throughout the Vanderhoof LRMP subregion (Environment Canada Lands Directorate 1975). Major sockeye and chinook salmon runs are on the Nechako River, and freshwater fisheries values are also high.

3.3.4 Fort St. James LRMP Subregion

The Fort St. James LRMP subregion is in the Nechako Plateau subregion of the Interior Plateau. Because the subregion is in the rainshadow of the Coast and Rocky Mountains, the climate is dry relative to the coastal and mountainous parts of British Columbia. Open valleys of the Interior Plateau receive between 400 - 600 mm of precipitation per year, while precipitation in the uplands may reach 750 mm per year (Schaefer 1975). Winters are long and cold, with average January temperatures around -20°C, and summers are cool and brief, with temperatures rarely rising above 20°C.

The dominant landscape feature of the Interior Plateau is an erosional surface, with varying degrees of dissection, and the northerly portion of the Nechako Plateau area, on which the Fort St. James LRMP subregion lies, is more dissected than areas to the south. The Nechako Plateau is generally comprised of flat to rolling terrain at elevations of 1200 - 1500 m, with uplands and peaks rising above 1850 m. The landscape shows the effects of deglaciation in its profusion of terraces, eskers, and lakes.

The Fort St. James LRMP subregion is primarily within the Sub-boreal Spruce Biogeoclimatic Zone, with vegetation typical of the Englemann Spruce - Subalpine Fir Zone present in favourable areas.

Animal species within the Fort St. James LRMP subregion include moose, caribou, elk, mule and blacktail deer, coyote, wolf, bear, and freshwater fish (Cowan and Guiguet 1965). Ungulate capability varies throughout the subregion: high to the northeast of Stewart

Lake; moderate to high to the southeast of Stewart Lake; high in bands surrounding lower and upper Takla Lake; moderate to low capability along the central portion of Takla Lake; and low capability throughout most of the remainder of the LRMP subregion, although river valleys and certain other favourable areas may be of moderate to high ungulate potential. The climate poses severe limitations to waterfowl throughout the study area (Environment Canada Lands Directorate 1975).

3.3.5 Lakes LRMP Subregion

The Lakes LRMP subregion encompasses part of the Babine Upland, the Bulkley Basin, and the Nechako Plateau subregions of the Interior Plateau. The subregion lies in the rainshadow of the Coast and Cascade Mountains, and climate less moist than that of the coastal and mountainous parts of British Columbia. Open valleys receive 400 - 600 mm of precipitation per year, and precipitation in the uplands may reach 750 mm per year (Schaefer 1975). Mean annual temperature is 3° C, reflecting short, warm summers and long, cold winters. Winter frost penetration may reach 50 cm or more.

The dominant landscape feature of the Interior Plateau is an erosional surface, with varying degrees of dissection. Terrain in the Lakes LRMP subregion is generally flat to rolling at elevations of 750 - 1050 m, with uplands and peaks rising above 1600 m. The landscape shows the erosional effects of glaciation and deglaciation in its profusion of terraces, eskers, and lakes.

Within the Lakes LRMP subregion, the Babine Upland (north of Ootsa Lake) is mainly within the dry to medium cool Sub-boreal Spruce Biogeoclimatic Zone, with the Englemann Spruce - Subalpine Fir Zone at higher elevations; the Bulkley Basin to the east is environmentally similar. The part of the Nechako Plateau south and west of Ootsa Lake is primarily within the most, cold Sub-boreal Spruce Zone, with pockets of the Englemann Spruce - Subalpine Fir Zone.

Animal species within the Lakes LRMP subregion include: moose, caribou, elk, mountain goat, mule deer, coyote, wolf, bear, and freshwater fish (Cowan and Guiguet 1965). Particularly important are anadromous fish, including steelhead and several species of salmon, in the Bulkley River system (Rafferty 1975). Additionally, Babine Lake produces and receives from 70 - 90% of the salmon of the Skeena run (Mohs 1975, citing Forester 1968: 62). Ungulate capability in the Bulkley Valley, the north side of Ootsa Lake, and areas to the south of Francois Lake is high; on the north side of Francois Lake, ungulate capability is very high. Uplands have moderate to low capability to support ungulates. Capability for supporting waterfowl is severely limited throughout the Lakes LRMP subregion (Environment Canada Lands Directorate 1975), but waterfowl species including Canada goose, widgeon, goldeneye, grebes and loons stop over in the area during migration (Rafferty 1975).

4.0 ETHNOGRAPHIC OVERVIEW

This overview, based on a review of the literature, examines the relationship of aboriginal peoples to the land within the study area. This information will hopefully contribute to a number of applications in the LRMP study.

The five major aboriginal ethnolinguistic groups who used the LRMP subregions traditionally are identified, along with their modern First Nation descendants. Many First Nations have claimed large tracts of the study area and must be consulted by government agencies and private developers regarding use and alienation of the land. For management purposes, we have identified, whenever possible, such First Nations, their traditional territories and modern territorial claims, but we have not attempted to describe specific traditional territorial boundaries. Identification of modern claims is as up-to-date as the available literature, based on *published* information current in late 1994. However, a number First Nations have chosen not to identify their traditional territories and territorial claims at this time, and undoubtedly, future aboriginal claims will be made on parts of the study area.

The overall purpose of the study is to define the archaeological potential of each LRMP subregion prior to 1846. The aboriginal land use and occupancy known for the LRMP subregions prior to 1846 can contribute to the model of archaeological potential by identifying major resources and settlement patterns. From this information, a "cultural landscape" can be constructed, which attempts to identify the impact of aboriginal land use on the landscape in so far as it relates to archaeological patterning. This information will hopefully confirm existing archaeological patterns and/or suggest new areas that the archaeology should consider.

We are also mindful of the pitfalls of applying ethnographic information, most of it collected many years after cultural practices changed, to archaeological models of prehistoric and early historic land use. Therefore, when possible, we have outlined sociocultural changes that relate to aboriginal land use and occupancy and may have implications for archaeological patterning.

The five major aboriginal ethnolinguistic groups in the study area are covered differently in the literature, and the overview of each group reflects the information available on each group according to: (1) the pre-1846 period; (2) areal coverage within the LRMP subregions; (3) seasonal round and resource use; (4) the "cultural landscape" of each group; (5) sociocultural change that affects applicability of ethnographic information to archaeological patterns. The reported or reconstructed cultural patterns of the groups are limited insofar as the available literature is limited, and should not be regarded as complete or comprehensive. Further ethnographic research, particularly traditional use studies undertaken with native elders, will undoubtedly contribute insightful land use details that can be used to define further the cultural patterns described here.

4.1 The Carrier

The traditional territory of the Carrier Indians is the north central interior of British Columbia between the Rocky Mountains and the Coast Range. This vast region includes the watershed of the upper Fraser River, the upper Skeena River and their tributaries. The northernmost Carrier are at Bear Lake, a tributary of the upper Skeena River, just north of 56° north latitude. The southern limit of traditional Carrier territory in the 19th century was at Alexandria. Carrier territory includes all of Vanderhoof and Lakes LRMPs, and covers much of Robson Valley LRMP, Prince George LRMP and Fort St. James LRMP.

The name Carrier is an English translation of French and Sekani names, which allude to the custom of widows carrying on their backs the cremated remains of their husbands (Morice 1893:111; Tobey 1981:430). The Carrier called themselves **dakelh**, referring to 'people who travel by boat in the morning' (Furniss 1993:3) or 'on water traveller' (Hall 1992:4). This term, anglicised as "Takully" or "Takulli," among other spellings, was commonly used as a collective name for the Carriers, except for the Babine Carriers of the Bulkley River and Babine Lake. The Carrier also refer to themselves collectively as **Dene** or **Dune**, meaning 'people' (Furniss 1993:3).

The Carriers usually refer to themselves by the names of their tribes. Each tribe consisted of several interrelated extended families that controlled a territory and its resources. The literature has identified a number of consistently named Carrier tribes over time, each associated with a geographical unit that encompassed broad hunting, fishing and trapping territories. The tribes are listed below, from the literature summary by Tobey (1981) for all the Carrier peoples, and the summary by Furniss (1993) for the Southern Carriers. The spellings of group names vary considerably in the literature. When possible, modern spellings are used, otherwise their anglicised names from Duff (1964:33-34) are given.

(1) **Witsuwit'en.** They are the Bulkley River Carrier, today represented by the Hagwilget and Moricetown Indian Bands. The Wet'suwet'en proper are not in the subject LRMPs. However, the western part of Lakes LRMP was included in the Gitksan-Wet'suwet'en land claim (McEachern 1991: Map 2). Morice (1893:30) identifies the "Hwotsu'tinni" with Bulkley River and Francois Lake. Offshoots from the Bulkley River bands became the Francois Lake tribe in 1916 and the Omineca and Burns Lake Bands (Tobey 1981:430).

(2) **Nataotin.** These people are known historically as the Babines, whose traditional territory is Lake Babine. The southern half of Lake Babine is in the Lakes LRMP. Today the Nataotin are represented by the Lake Babine Band.

(3) **Tachiwoten.** These are the people of Tachie on the north shore of Stuart Lake. Their territory includes the north end of Stuart Lake, its tributaries, and Trembleur Lake, all of which lie within the the Fort St. James LRMP. In 1916, the Royal Commission identified five bands that made up the "Tatche Tribe": Tatche Band, Pinchie Band, Yacutcee Band, Grand Rapids Band, and Trembleur Lake Band (Duff 1964:34). The Tache Tribe in 1916

also included the North Takla Lake Band which amalgamated in 1959 with the Fort Connelly Band (Duff 1964:34). Today, the Tachiwoten are represented by several Indian Bands: the Fort Connelly Band at Takla Lake, and the Tl'azt'en Nation, formerly known as the Stuart-Trembleur Lake Band. These bands are within Fort St. James LRMP.

(4) Necosliwoten. They are 'the people of Stuart Lake,' whose main village is Necoslie at Fort St. James. They are represented today by the Nak'azdli Indian Band. Their traditional territory is within Fort St. James LRMP.

(5) Tanoten. Known as the 'river confluence people,' their main village was Lheitli at Fort George (later Prince George) at the confluence of the Nechako and Fraser Rivers. Their traditional territories are included in the Robson Valley and Prince George LRMPs. Today, the Tanoten are represented by the Lheit-Lit'en Nation.

(6) Nulkiwoten. They are the 'people of Nulki village' or 'of Nulki Lake,' located near Stoney Creek. In the late 19th century, they amalgamated with the Tachickwoten (7) and together they became the Stoney Creek Band, with their main village at Stoney Creek. Their traditional territory is within the Vanderhoof LRMP.

(7) Tachickwoten. These are the people of Tachick Lake. In the late 19th century, they amalgamated with the Nulkiwoten (6) and together they became the Stoney Creek Band, with their main village at Stoney Creek.

(8) Natliwoten. They are the Fraser Lake people. Their main village of Natley was located at the outlet of Fraser Lake, which is within Vanderhoof LRMP. The Natliwoten today are represented today by the Nadleh Whut'en Indian Band.

(9) Stellawoten. These 'people of the peninsula or cape' were based at Stellaquo at the head of Fraser Lake. Today they are represented by the Stellaquo Indian Band. Their traditional territory is within Vanderhoof LRMP.

(10) Nazkot'en. Often referred to as the "Blackwater Tribe," the Nazkoten are based at Nazko on the Nazko River, a tributary of the Blackwater. Their traditional territory includes the Euchinico, Nazko and lower Blackwater Rivers, and extends into the southwest part of Prince George LRMP. The Nazkoten are represented by the Nazko Indian Band.

(11) Lhoosk'uzt'en (Kluskoten). They are based around the Kluskus Lakes on the West Road River, which is part of the southern boundary of Vanderhoof LRMP. The Lhoosk'uzt'en are represented today by the Kluskus Indian Band.

(12) 'Ulkatchot'en (Algatcho). They are the most western of the Southern Carriers. Their village of Ulkatcho is at the headwaters of the West Road River, just south of Vanderhoof LRMP, but their traditional territory extends into Vanderhoof LRMP and into the southern part of Lakes LRMP. The 'Ulkatchot'en are represented today by the Ulkatcho Indian Band.

(13) Cheslatta. Their traditional territory is centred around Cheslatta Lake in the Lakes and Vanderhoof LRMPs. The Cheslatta Carriers today are the Cheslatta Indian Band.

(14) Omineca. The Omineca Band in 1964 included a number of former bands centred around Francois Lake (Duff 1964:33). Francois Lake Band, Decker Lake Band, Maxim Lake Band and Skin Tyee Band. Subsequently, a number of these amalgamated bands appear to have become separate again. Their traditional territories are mostly within Lakes LRMP and the western part of Vanderhoof LRMP.

(15) Lhtakot'en (Tauten). The 'people of the Fraser River' originally included Carriers living at Quesnel and at Alexandria. The Alexandria Carriers became greatly reduced in the historic period. Through extensive intermarriage with the Chilcotin, the Alexandria Carriers largely became Chilcotin culturally. The Alexandria traditional territory is not within the area of this study. The Quesnel Carriers are today the Red Bluff Indian Band. Their traditional territory lies outside the LRMPs of this study.

4.1.1 Literature

The Carriers are relatively well described in the literature. In terms of areas, the northern and western Carriers are best covered, especially those living in the lake country to the west of Prince George. The country east of Prince George is poorly covered. Possibly it was less populated and travel in the rugged high country was probably more difficult.

The earliest recorded observations on the Carriers are by fur traders who established a series of fur trading posts in Carrier country in the early 19th century. Traders Harmon (1957), Black (1955) and McLean (1849) provide useful, but limited observations on Carrier life.

The first ethnographer to work with the Carrier was Rev. A.G. Morice, who established a mission among the Necosliwoten Carrier at Fort St. James in 1885 and lived with them for 19 years. Morice wrote extensively on Carrier history, language, and material culture (Morice 1895, 1897, 1906). His study of Carrier material culture (i.e. Morice 1895) endures as the best record of Carrier traditional life.

Other ethnographic research was conducted a number of years after Morice. Jenness worked with the Witsuwit'en in 1924-1925 and his classical ethnography (Jenness 1943) still stands as a major source on these people. Later ethnographers (Duff n.d., 1951; Kobrinsky 1968, 1976; Hudson 1972, 1983; Fiske 1987) have examined northern and central Carrier social organization in relation to land use. The southern Carriers, who are on the periphery of the Lakes, Vanderhoof and Prince George LRMPs, have been largely neglected ethnographically until recently. Blacklaws (1980) has worked with Lhoosk'uzt'en. Elizabeth Furniss (1993a,b) has written general ethnographies of the four southern Carrier tribes. A recent cultural overview of all the Carriers has been prepared by Tobey (1981).

In recent years the Carriers have written about their own culture, as part of a movement of cultural recovery. Such reports (Birchwater 1991; Hall 1992; Moran 1988, 1990, 1994) often provide important details on land use.

4.1.2 Social Organization

All the Carrier share essentially the same social organization, but the western Carriers, particularly the Babines, adopted clan and phratry organization from their Gitksan neighbours (Jenness 1934; Kobrinsky 1976). Among other Carriers, modified forms of phratric organization spread eastward as far as Prince George (Jenness 1934; Duff 1951). Phratries were especially important for identifying named groups with specific territories. Phratric membership, crests, names and traplines descended in the maternal line. In former times, all members of a Carrier local or village group belonged to one phratry and phratric exogamy was the rule.

Underlying the phratric organization is a basic social unit of a large extended family consisting of a group of male siblings, their wives, children, and married sons' wives and children. Although the emphasis of the group was patrilineal and patrilocal, membership was bilateral, allowing through broad extended bilateral kinship ties, a large number of eligible persons. This exogamous and corporate group, termed the *sadeku* by Goldman (1941), appears to correspond to the Central Carrier *snadneke* 'my close relatives' (Tobey 1981:418). The *sadeku* was led by the *detsa* or the first born male of the sibling group. Each *sadeku* had a hunting territory and fishing sites, and the detsa directed the joint hunting and fishing activities of the *sadeku*. The sadeku had a bilateral membership of kin. Inheritance of property and use rights was bilateral, but as residence was mainly patrilocal, economic privileges tended to pass on patrilineal lines. The specific territory associated with each extended family group is known as the *keyoh* (Fiske 1987:187). A number of sadekus made up a Carrier "tribe" or "band".

The composition and organization of the sadeku varied according to economic tasks, sexual division of labour, and availability of seasonally fluctuating, localized resources. The greatest concentrations of people were in late summer at seasonal villages at or near salmon fishing stations, where many people were needed to construct weirs and dry the salmon for winter provisions. Relatives from other Carrier groups with limited salmon resources would join their kin at the fishing stations. In the fall, extended families dispersed to their keyohs and remained there for the winter. There, men hunted big game and trapped small mammals, while women caught fish in nets under the ice. In late winter when provisions were exhausted and available game was scarce, families dispersed into even smaller groups to take advantage of meagre food resources such as suckers or rabbits that were abundant enough to support small numbers of people.

4.1.3 Traditional Carrier Seasonal Round

The model of Carrier land use presented below pertains mainly to the 19th century, when Carriers lived primarily off the land, even though they were closely integrated into a commercial fur trade economy and later, a more diversified monetary economy. Although the Carriers experienced the beginning of a long, severe population reduction almost immediately after their contact with European traders in the first decades of the 19th century, the Carrier population was significantly large until the 1860s, when smallpox and other epidemics decimated the Carriers. The implications of acculturation on traditional Carrier land use patterns are discussed below in a section on sociocultural change.

The antiquity of the 19th century ethnographic land use pattern of the Carrier is not known, but as salmon resources are an integral element, the pattern probably has significant antiquity, and therefore considerable relevance to archaeological site distributions. The pattern of land use probably applies to a period well before 1846.

The traditional Carrier land use was based on a series of regularized moves to exploit a wide range of abundant resources that fluctuated both seasonally and locally. None of these resources alone were sufficient to sustain a Carrier local group, therefore groups travelled extensively and stayed at a number of villages and camps throughout their territories.

The greatest factor determining traditional Carrier land use was access to salmon resources (Kobrinsky 1968). Although the Carrier exploited a great variety of fish and game and plant foods, "salmon was the singlemost substantial element of Carrier diet" (Kobrinsky 1968:33) and salmon were at the base of Carrier subsistence production (Hudson 1983:60). Salmon provided the most abundant single resource that could be preserved for winter food. Sufficient dried salmon ensured a comfortable survival in long, often severe winters when available food resources are limited. The availability of salmon was a major determinant in the distribution of Carrier settlements. The distribution of salmon resources all but determined the locations of the villages.

Summer, the most productive season for the Carrier, was devoted to preserving food for the winter. The main focus of summer activities was salmon fishing at strategically located fishing stations, near village sites that should be regarded as permanent in that they were inhabited by the whole local group each year. These village sites experienced the greatest concentrations of family groups, as large numbers of people were needed to build the fishing weirs and to process the salmon for winter. Relatives in other Carrier tribes who lacked good salmon resources in their tribal territories joined their kinsmen at good salmon fisheries.

Fisheries for salmon and lake fish were the rationale for the location of summer villages. Although all five salmon species ascend the rivers in Carrier country, sockeye was the most abundant and valued the most economically by the Carriers; next in importance was the chinook or spring salmon (Morice 1895:73-74; Hudson 1983:60). Both these species were common to most of the streams in Carrier and Babine territory, however, the humpback (pink) salmon was peculiar to Lake Babine (Morice 1895:73-74).

Non-anadromous fishes especially important to the Carriers were lake trout and whitefish, both of which were caught in large quantities. Also eaten were: other trout species, kokanee (land-locked sockeye), ling, carp, suckers, and a small fish called *thelmak*. Occasionally, sturgeon were caught and eaten, but they had little economic importance for the Carrier.

The salmon fishing villages have been described as "permanent" in that, unlike the winter village, the summer salmon village site was occupied year after year (Morice 1895:184). The summer village was occupied from early May, when the grebes arrive, until about the second week of September, when the family supply of salmon was normally secured.

In addition to salmon, many other foods were harvested during the summer. The fish traps also collected land-locked salmon (kokanee), trout, whitefish and ling.

During late summer and early fall many diverse plant foods were collected. The saskatoon or service berry (*Amelanchier alnifolia*) was considered the most important economically. At the end of every summer the women collected enormous quantities of saskatoons which were eaten fresh and also dried into cakes for winter provisions (Morice 1895:125-127). Morice (1895:127-128) lists some major species of berries[1] that the Carriers collected: velvet-leafed blueberry (*Vaccinium myrtilloides*), bog cranberry (*V. oxycoccos*), crowberry (*Empetrum nigrum*), highbush cranberry (V. edule), soopolallie (*Shepherdia canadensis*), tcitcestetce [grows in mountains and resembles the saskatoon], a blue berry on very tall bushes, kinnikinik berries, trailing raspberry (*Rubus pubescens*), strawberry (*Fragaria spp.*), black currant (Ribes nigrum). These berries are only a few of many food and medicinal plants used by the Carrier (see Carrier Linguistic Committee 1973; Turner 1978).

In September, when the winter supply of salmon had been dried, families dispersed from the summer village to their hereditary hunting grounds. The Carriers continued through the fall to preserve food for winter provisions. For some groups, the lake fisheries continued to be important. Whitefish were taken in the lakes from early November until the lakes freeze over. Great numbers of whitefish and char spawn around reefs and islands in the lakes, and families camped on these islands or nearby on shore to net and smoke the fish; Stuart Lake and Cunningham Lake are especially known for their whitefish and char fisheries, and Pinchi Lake supported an important kokanee fishery (Hudson 1983:64, 173-174; Moran 1994:33-34).

Fall was also a time for hunting large game, which were also taken throughout the year. Caribou hunting was especially important in the fall and winter (Furniss 1993a:27). Caribou trails were good hunting places, where the caribou probably were taken with snares (Morice 1895:100-101). Caribou also were ambushed and taken in drives and surrounds

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[1] When possible, Morice's common names have been replaced here with modern common names taken from MacKinnon *et al.* (1992).

(Furniss 1993a:27,31). The elk (*Cervus canadensis*) was formerly indigenous to Carrier territory, but by the late 19th century the elk had long disappeared and was replaced economically by the caribou and the moose (Morice 1895:93). Deer were rare (Morice 1895:93). Black bear and grizzly bear were taken in snares (Morice 1895:99-100).

In November, small groups of closely related extended families began to make their winter camp. Preferred wintering sites were sheltered places among tall spruce trees beside a lake or river (Hall 1992:34). Plentiful firewood was a major determinant in the selection of winter sites (Morice 1895:189; Furniss 1993a:27), hence new winter quarters were chosen each year.

During the winter, families depended on their dried foods, but supplemented their diet with fresh fish and game. As large game became scarce, families caught various small fish and game. Beaver were taken in nets set in holes cut in the ice (Morice 1895:66-67). Rabbits, caught in snares, were a main winter food (Furniss 1993a:29). In February, when dried salmon became depleted, people fished through the ice in nearby lakes (i.e. Harmon 1957:174,177). By late winter and early spring, dried provisions were exhausted, and small family groups relied on small game and fish resources in the family territory.

In the early 19th century the Carriers became integrated into the fur trade and their winter quarters were bases from which they set out to trap many fur bearers: beaver, muskrat, marten, fisher, otter, wolverine, lynx, fox, wolf, coyote, ermine, mink and marmot. The meat of many of these animals, especially the beaver and muskrat, also was eaten. Originally, most of these furbearers were taken in deadfall traps and snares (see Morice 1895:95-104) that were replaced by steel traps.

In early spring, beaver and muskrat were important sources of food. The men drove beaver and muskrat from their houses and speared them; beaver were also caught in the traps used for fish (Hall 1992:35). The beaver and muskrat meat were eaten; beaver meat also was dried for later consumption.

As soon as ice left the lakes, suckers spawn in the creeks that flow in or out of the lakes. Groups went to the creek mouths to catch suckers and trout in basket-like fish traps (Birchwater 1991:17). Spawning places upstream some distance on the creeks were also important for fishing stations and habitation sites. The village of Portage (Nancut) is located at a spawning area about three miles upstream from Stuart Lake (Moran 1994:13).

In March, men left their winter villages and went into the mountains to hunt caribou (Hudson 1983:65). In early summer the high country was a good place for hunting goats, groundhogs, bear, and deer (Birchwater 1991:18).

Returning migratory waterfowl--geese, ducks and swans--were captured with snares (Morice 1895:104). Grebes were caught in great numbers (Morice 1895:107).

In spring several plant foods were eagerly sought after the long winter (Morice

1895:115-116, 129), among them: tiger lilly bulbs (*Lilium columbianum*), nodding onion bulbs (*Allium cernuum)*, sweet flag bulbs (*Acorus calamus*), dog-toothed violet roots (*Erythronium giganteum*), cow parsnip stalks (*Heracleum lanatum*), fireweed marrow (*Epilobium spp.*), Oregon grape leaves (*Berberis aquifolium*), hair lichen, and *'ah* fern roots.

In spring, the Carriers also collected the cambium layer of the lodgepole pine (*Pinus contorta)* and from the "poplar" (black cottonwood, *Populus balsamifera*, and balsam poplar, *P. balsamifera*) (Hall 1992:16).

Harmon, writing in ca. 1811, summarized the spring and early summer activities of the Carriers until the arrival of salmon:

> Toward the middle of April, and sometimes sooner, they leave their [winter] villages, to go and pass about two months at the small lakes, from which, at that season, they take white fish, trout, carp, &c. in considerable numbers, and subsist on the small fish, which they dried when at the lakes, or on salmon, should they have been so provident as to have kept any until that late season; or they eat herbs, the inner bark or sap of the cypress tree, berries, &c. At this season, few fish of any kind are to be taken out of the lakes or rivers of New Caledonia. In this manner the Natives barely subsist, until about the middle of August, when salmon again begin to make their appearance, in all the rivers of any considerable magnitude; and they have them at most of their villages in plenty, until the latter end of September, or the beginning of October. (Harmon 1957:248)

4.1.4 The Carrier Cultural Landscape

The largest Carrier villages were located at or near salmon fisheries. The villages were generally situated at the confluence of rivers or on the northern shores of lakes to gain maximum exposure to the sun (Morice 1895:184). In the vast lake country west of the Fraser River, most Carrier villages were located at the outlets of lakes (Kobrinsky 1968:32; Hudson 1983). This pattern applies to the Nechako Plateau and elsewhere where there are numerous large lakes. Village locations in non-lacustrine areas are at the confluence of rivers, for example: Chinlac at the outlet of the Stuart River into the Nechako River, and Lhleitli at the outlet of the Nechako River into the Fraser River. Both of these villages were at prime salmon fisheries.

Observations by some early 19th century traders indicate that Carrier villages contained significant numbers of people. Daniel Harmon, the first whiteman to travel up Lake Babine, visited five Babine (Nataotin) villages in the winter of 1812; he estimated that together those winter villages contained about 2,000 people (Harmon 1957:150). John McLean observed in the mid-1830s that Necoslie village at the outlet of Stuart Lake contained about six houses, each occupied by several families (McLean 1849:146). After the first white traders settled in New

Caledonia, they observed that the Indian population decreased rapidly (McLean 1849:179). Such early observations pertaining to population size, even during the 1830s--only two decades after the establishment of the first trading posts in New Caledonia, must reflect a significant reduction that had already occurred. It would not be unreasonable to assume that a pre-contact Carrier summer village contained several hundred people. Harmon's estimates cited above suggest that the large Babine winter villages also must have held several hundred people.

The summer fishing villages included several structures and associated features. The most prominent were several permanent plank houses in which families lived and smoke cured their salmon. The houses were consisted of a frame of large spruce posts dug into the ground that supported transverse beams. Fixed to this frame were walls of split spruce planks and a gabled roof of spruce bark. Floors were dirt and had a central fire. Unlike the big houses of coastal peoples, the Carrier houses had no interior partitions nor excavated areas.

Most villages included at least one big house owned by the "nobleman" or leader of each group of extended families. These large houses measured about 35 ft by 25 ft (Morice 1895:185). They were used for ceremonial gatherings and also as a smoke house for salmon and as a dwelling for the extended family of the nobleman. When the extended family was too large to be accommodated in the big house, smaller versions of the plank house were built nearby.
Also, rude versions of the smaller dwelling house were erected for shelter and for smoking fish at summer fishing stations.

Carrier summer villages also included subterranean cache pits for dried salmon, salmon roe and dried berries. These foodstuffs were stored in birch bark baskets, placed in pits, and covered with layers of birch bark, spruce bark, and finally, earth.

Villages also contained small sweat lodges for treating illness. They were small round huts covered with spruce bark and big enough for one person to lie in. A small hole was excavated to hold heated rocks; medicinal plants were put on the hot rocks and water was poured on them to make steam (Hall 1992:37).

Graves were located in or near villages. According to Morice (1893:121), the pre-contact Carriers placed corpses in trees specially hollowed out for that purpose, and later adopted cremation from the Tsimshian, which became the mortuary practice of all the Carriers. After cremation, widows collected ashes of their husbands which they carried on their person. The ashes of a child or single person were collected by the mother. The bones were put in a birch bark basket and hung on a nearby tree out of reach by animals (Hall 1992: 6). After about two years, relatives of the deceased had a feast to end the period of mourning. The bones and ashes were then collected from the widow(s) and buried under a special shed erected for that purpose in the middle of the village (Harmon 1957:149).

Near or within an easy access of the summer village were the salmon fisheries, where various fish traps and weirs were built, depending on river conditions. At the outlets of lakes and shallow streams where the current is slow, large weirs were built across the river. They channelled the fish into various attached traps and into nearby associated traps (Morice 1895:85-89). Such traps were built at the outlet of Stuart Lake, where weirs stretched across the Stuart River between Little Island and Long Island; families camped on Long Island and dried their fish there (Hall 1992:13).

On rivers such as the Nechako and Fraser that were too deep and too swift to allow weirs, detached lattice traps were used near shore for salmon, kokanee, trout and ling (Morice 1895:89; 1906: 187-188). In shallow streams only, a detached box-like trap with a special door was used (Morice 1895:90).

At rare places where the stream was very narrow and the salmon had to jump a waterfall, pot hanger traps were used. A lattice barrier with a trough-like basket at its base was suspended from the top of the waterfall; when salmon tried to jump the fall, they hit the barrier and fell back into the basket (Morice 1895:91).

Rock outcrops projecting into the river were favoured as dip-netting stations, and when natural rock outcrops were not pronounced enough, dip net fishing platforms of wooden scaffolding were built on them (Morice 1895:91). Dip nets were used especially on the Fraser River and on the Bulkley River.

At rapids where salmon congregated, steep banks and large rocks were used as stations for fishing with leisters and harpoons (Morice 1895:72). Where the river was shallow and the bottom could be seen clearly, chinook salmon were harpooned or "speared" from canoes (Hall 1992:16).

Drying berries with a berry press was done in sandy places, if possible (Morice 1895:125-127). A sloping shallow trench was dug and a long bark tray was placed inside it. A spruce bark container with an open bottom was placed on the upper half of the sloping tray. The container was filled with berries and hot rocks were placed on top of the berry mass to boil the berries and press the juice out of them. The juice flowed into the lower part of the tray and was collected, while the berry mash left in the boiler was spread in thin layers on leaves for drying in the sun and wind. The Carrier used this method to make dried cakes of saskatoon berries, blueberries, and the "tetqe" berry (probably *V. membranaceum*).

In November, small groups of closely related extended families began to make their winter camp. Preferred wintering sites were sheltered places among tall spruce trees beside a lake or river (Hall 1992:34). Plentiful firewood was a major determinant in the selection of winter sites (Morice 1895:189; Furniss 1993a:27), hence new winter quarters were chosen each year.

The Upper Carriers (Stuart Lake, Trembleur Lake, Takla Lake, Bear Lake, Babine Lake and the Wetsuweten) built small gabled winter houses of spruce or cottonwood pole frames covered with spruce bark (Morice 1895:178-179; Hall 1992:34-35). Each extended family passed the winter in one of these temporary houses.

The Lower Carriers built round semi-subterranean winter houses consisting of an excavated base about 3 ft below the ground and a pole frame that supported an earth roof (Morice 1895:191-192; Furniss 1993a:27). According to Morice (1895:191), the Lower Carriers adopted the semi-subterranean house from their Chilcotin and Shuswap neighbours to the south. If this is so, the semi-subterranean house may be recent among the Lower Carriers, and their winter dwellings may have been like those of the Upper Carriers.

In spring, the Carriers collected the cambium layer containing sap from the "jack pine" [lodgepole pine, *Pinus contorta]* and from the "poplar" [black cottonwood, *Populus balsamifera*, and balsam poplar, *P. balsamifera*] (Hall 1992:16). Formerly this was done with concave scrapers of antler or bone, but later knives and other metal tools were used. After the outer bark was stripped off, the cambium layer was peeled off from the bottom of the tree upwards, and rolled into a basket or pail (Hall 1992:16). The juice was strained off and drunk fresh, whereas the cambium layer itself was dried. In spring, spruce bark was also stripped and rolled up for later use as roofing in winter lodges (Hall 1992:34). Bark stripping was eventually forbidden by government authorities, but it has undoubtedly left large numbers of culturally modified trees (CMTs) in the forests.

An essential aspect of the Carrier landscape was trail systems linking Carrier villages and resource areas. The Carrier visited neighbouring peoples by means of trails. Trails are often found at portages linking major river and lake systems and at mountain passes. Many Carrier trail systems are still used. Non-Indian traders, explorers, prospectors and settlers in Carrier country used trails that were already in place. Many modern roads have followed aboriginal trails.

4.1.5 Sociocultural Change

The cultural pattern described above applies to the Carrier life in the first half of the 19th century, and probably earlier, as long as significant salmon resources were present in Carrier territory. After the mid-19th century the cultural pattern became significantly modified from demographic, cultural and environmental changes.

Severe population reduction was the most pervasive change among the Carrier, and it must be considered in reconstructing early historic land use patterns. Well before the devastating smallpox epidemics of the mid-19th century, significant population decline had occurred. A trader noted in the mid-1830s: "It has been remarked by those who first settled in the district [New Caledonia], that the Indians are rapidly decreasing in numbers since their arrival [in 1806]--a fact which does not admit of a doubt" (McLean 1849:179). The size of the Carrier population at contact is not known, but judging from other native peoples, it could have been ten times what the census counts of the late 19th century.

A contact population about ten times greater than that in the late 19th century suggests that there were more tribes at contact than that those listed by Morice (1895:24-28). Morice's tribes undoubtedly represent an amalgamation or fusion of reduced groups. Certainly each of

Morice's tribes would have been larger at contact, and therefore would have consisted of more sadekus. Larger corporate groups such as the sadeku would mean larger summer and winter villages, as well as larger and more temporary camps.

The fusion of groups also suggests a reduction in the number of independent groups, and, at the same time, an enlargement of their territories through acquiring territories of weak or no longer extant groups. For example, the Bulkley River Carrier incorporated the Eutsuk Lake area into their territory after the earlier inhabitants of Eutsuk Lake, who seem to have formed a distinct subtribe, were destroyed by smallpox in about 1838 (Jenness 1943:475).

By the late 19th century, however, the best supply of firewood may not have been a major determinant of winter village sites because by then, the severe reduction of the Carrier population probably resulted in smaller wintering groups of families than in pre-contact and early contact times. Smaller numbers of people would need less firewood to sustain themselves, who would have needed less firewood of decimation of the Carrier population. century, when the Carrier population had suffered severe reduction, the wintering family groups were probably smaller than in pre-contact and early contact times, and the amounts of firewood necessary to sustain the previously larger winter groups may have become less of factor in selecting wintering sites.

Moose, now the large game animal most economically important to the Carrier, extended its range southward into Carrier country in the late 19th and 20th centuries (Hudson 1983:65). The moose quickly became a staple in the Carrier diet (Hudson 1983:42). The southward expansion resulted from large forest fires that destroyed the mature conifer forest, habitat of the woodland caribou, and allowed new deciduous growth, ideal moose habitat, in those areas (Hillen 1971:57).

Since contact, the Carrier economy has been transformed from a clan-deneza-salmon system to a trapping group-moose complex (Hudson 1983:42). This profound change suggests several implications for an archaeological model. Village groups and economic groups were probably larger. Hunting parties probably ranged farther from village settlements, and were more closely tied to the migratory routes of caribou. The former domination of mature conifer forest, the habitat of woodland caribou, undoubtedly imposed limits on the number and abundance of plant and animal species. Possibly the great range of culturally important plants was reduced in the number of species and in collection sites.

4.2 Sekani

Sekani traditional territory since the early 19th century is the mountainous area of British Columbia drained by the Finlay and Parsnip Rivers. Its landforms include foothills, mountains, high plateaus with small lakes and numerous streams. Sekani territory lies mostly within the Mackenzie (Arctic) drainage system, and therefore lacks salmon. The western edge of Sekani territory includes the north end of Takla Lake and Bear Lake. The latter is in the northern reaches of the Skeena drainage. This area was also inhabited by the Carrier and by the Gitksan.

Western parts of Sekani territory are within the northern half of Fort St. James LRMP. The southern parts of Sekani territory are in the northern area of Prince George LRMP.

The name Sekani means 'people on the rocks' (Morice 1895:28) in reference to their territory in the Rocky Mountains. In the 18th century, the Sekani lived on the east side of the Rockies, and they were essentially a western group of the Beaver Indians. However, Beaver and Cree acquired firearms before the Sekani and expanded westward into Sekani territory on the east side of the Rockies. The Sekani then crossed the Rockies and expanded westward, southward and northward (Teit 1910-1913:34; Jenness 1937:5-8,11).

Sekani groups are noted for flexibility in composition, size and affiliation. Fission and fusion of small Sekani groups with one another and with neighbouring peoples is common, therefore identification of extant groups over time is difficult. Various researchers over the years have attempted to identify Sekani "bands" from historical and ethnographical accounts (see Morice 1895; Teit 1910-1913; Jenness 1937; Duff 1964; Denniston 1981; Lanoue 1992). A number of "bands" and territories extant since the early 19th century emerge from these attempts:

(1) **Tsekani, 'Rock or Mountain People.'** They occupied the country from McLeod Lake south to the Arctic-Pacific divide and east to the prairies. This group became part of the McLeod Lake Band. Their traditional territory is in the northern part of Prince George LRMP.

(2) **Yutuwichan.** Their territory was from the north end of McLeod Lake down the Parsnip and Peace Rivers to Rocky Mountain canyon, and westward to the headwaters of Manson and Nation Rivers, including Carp Lake and the upper reaches of Salmon River. The Yutuwichan also expanded westward to Takla Lake (Jenness 1937:Fig.1) Part of Yutuwichan traditional territory covers the northwest part of Prince George LRMP and part of Fort St. James LRMP. The Yutuwichan became part of the McLeod Lake Band.

(3) **Sasuchan, 'People of the Black Bear.'** Their territory included all the basin of Finlay River from the mouth of the Omineca River north and west, including Thutade and Bear Lakes. Fort Connelly, established at the north end of Bear Lake in 1827, became a major centre for the Sasuchan, as well as for other Sekani, Carrier and Gitksan groups. The western part of Sasuchan traditional territory covers the northern third of Fort St. James LRMP.

In 1890, the Hudson's Bay Company established Fort Grahame (also known as "Bear Lake Outpost") on the Finlay River, and in 1892 closed Fort Connelly permanently. About half of the Sasuchan moved to Fort Grahame, and they later became the Fort Grahame Band (Duff 1964:35). In the 1920s, when Fort Ware was established, the Band split into the Fort Grahame and Fort Ware Bands. Both bands amalgamated in 1959 as the Finlay River Band, but in the 1970s it separated into the Fort Ware and Ingenika Bands (Koyl 1992:Table 1). The

Ingenika Band, now called the Tsay Keh Dene Band, live at Ingenika on Williston Lake. Fort Ware is located at the north end of Williston Lake.

A nomadic offshoot of the Fort Grahame people, called the Otzane or "Fort Grahame Nomads," eventually became part of the Kaska Tribe, and in 1964 they belonged to the Liard River Band (Duff 1964:35). This group is perhaps the "Otzen-ne" of Morice (1895:29) or part of "Davie's band" (see below).

The Sasuchan remaining at Bear Lake split into at least three groups. A nomadic group of "Bear Lakers" moved to Fort Grahame, then to Caribou Hide, and they joined the Tahltan, but moved in 1962 to Iskut Lake (Duff 1964:35).

A second group, known as the T'lotona or Long Grass Indians, were some Sasuchan who intermarried with the Gitksan and ca. 1850 became a separate band; they moved into the grassy plateau country at the headwaters of the Skeena and Stikine Rivers (Jenness 1937:12-14,18,60). Part of the T'lotona country covers the northern part of Fort St. James LRMP. The T'lotona may have become the Caribou Hide people of Metsanatan, who were moved to Telegraph Creek in 1948 (Lanoue 1992:153). The people of Fort Ware believe that the T'lotona are ancestors of many Fort Ware families (Lanoue 1992:147).

A third group who stayed at Bear Lake became the Fort Connelly Band. They amalgamated in 1959 with the Takla Lake Band (Duff 1964:35). In 1994 a number of Bear Lake families split off from the Takla Lake Band and appear to be in the process of forming their own Indian Band.

(4) **Tseloni, 'People of the End of the Rock or Mountain.'** They occupied the plateau country between the headwaters of the Finlay and the Liard Rivers. The upper reaches of the Fox River and the Kechika or Muddy River flow through the centre of Tseloni territory. The northern and western limits of the territory are not known for certain, but probably reached Liard Canyon in the north and the Pacific divide in the west (Harris 1984:37-39). Tseloni territory is outside the LRMP areas of this study.

When Fort Grahame was established, the Tseloni amalgamated there with the Sasuchan, and a new band called "Davie's band," consisting of metis and known as the Otzane, occupied the former Tseloni territory (Jenness 1937:14). The Tseloni became part of the Slave Band and part of the Liard River Band (Duff 1964:35). Presumably these modern Tseloni included "Davie's band." However, "Davie's band" or the Otzane is reported to have moved in 1917 from Lower Post in Kaska territory to the Fox and Kechika area, and later became part of the Fort Ware Band (Denniston 1981:440).

4.2.1 Literature

Literature on the traditional Sekani is relatively limited. Late eighteenth and early 19th century sources are by fur traders (i.e. Mackenzie 1970; Fraser 1960; Harmon 1957; Black 1955) whose journals provide occasional details on the Sekani: mainly brief descriptions of observed or reported groups.

The first ethnographic studies are by Rev. A.G. Morice, who was stationed among the Necosliwoten Carrier at Fort St. James from 1885 until 1904. Although Morice wrote extensively on the Carrier, he also visited the Sekani at McLeod Lake and recorded valuable details of earlier Sekani history and material culture (especially Morice 1895, 1897, 1906). In 1924, Diamond Jenness spent three weeks among the Sekani at Fort Grahame and wrote the first ethnography of the Sekani Jenness (1937). He developed a general ethnography based on the early accounts by fur traders, Morice's work, recall by informants, and his own observations. By 1924 the Sekani had changed greatly as a result of the fur trade and many of their earlier land use practices had been given up, even though the Sekani in 1924 still lived largely off the land. Jenness's study, however, has remained the classical depiction of traditional Sekani culture.

Since Jenness, a useful cultural summary of the Sekani, based largely on the above sources was published by Denniston (1981). The most recent general ethnography is by Guy Lanoue (1983, 1992), who lived among the Sekani of McLeod Lake and Fort Ware in the late 1970s. Lanoue's interests centered on contemporary social relationships, but he also analyzed band organization in the early historic era, based on information from historical accounts and previous ethnographies. Most recently, Alison Davis reported on the traditional role of plants among the Sekani, about which little was known before. She identified 67 species of plants used for food, teas, medicines and smoking (Davis 1993:14-16).

There is very little site specific information on the Sekani in the available literature. George M. Dawson, who explored parts of Sekani territory from 1879 to 1887, identified a number of sites (1881:45B, 51B; 1888:200B). In the early 20th century, Sekani bands made a number of additional land applications to the Royal Commission on Indian Affairs (Indian and Northern Affairs Canada 1913; 1914; 1915b; 1915c; 1915d). These materials often contain information on village sites, trails, portages and passes. However, much of the information pertains to a later period than the early 19th century.

In sum, most of the above sources are useful for understanding Sekani history and traditional social organization. Although they include land use information most of it is too broad and without context, and therefore it is incomplete for the inventory purposes of this LRMP study.

4.2.2 Social Organization

The historic and early ethnographic literature (i.e. Morice 1895, Jenness 1937) often reports that the Sekani consist of "bands," but usually is ambiguous as to what bands are.

Lanoue, drawing on Helm (1965:380), has distinguished at least two levels of social organization for the Sekani in the first half of the 19th century.

The named bands listed above, each with a flexible composition and a generally defined traditional hunting territory, are "regional bands" (Lanoue 1992:140-141). The regional band consisted of a number of interrelated "local bands." Each local band was more of a "network" than a defined group (Lanoue 1992: 141). The local band consisted of loose combinations of nuclear families that lived together as a domestic and hunting unit. The local band changed in size and composition every few years, and even seasonally, according to tasks, availability of resources and interpersonal dynamics.

Historical reports cited and interpreted by Denniston (1981:434-435) show that Sekani bands were small. In 1793 Mackenzie met in the upper Parsnip River what was probably a local band that consisted of three men, three women and seven or eight children. They told Mackenzie that their group, probably the Tsekani regional band, amounted to no more than 10 families (perhaps altogether about 50 persons). In 1824, Black encountered on the upper Finlay River what was likely the Tseloni regional band. It was led by one old man and consisted of seven married men, about seven young men, and an unspecified number of women and children--perhaps 40 people in all. The Sasuchan and Tseloni regional bands in 1828 are estimated at least 100 men, women and children (Denniston 1981:435). The size of regional bands appears to have varied depending on the resources of their areas (Denniston 1981:434).

Sekani kinship, the structure of intraband relationships, is a variation of the Hawaiian kinship type in which cousins on both the maternal and paternal sides are included with siblings (see Jenness 1937:51-52). This kinship system has broad bilateral kinship categories that designate large numbers of kin as close relatives, thereby allowing fluidity and flexibility among Sekani groups.

In the mid-19th century, the Sekani attempted to adopt the Gitksan and Carrier phratric social organization based on exogamous matrilineal phratries. However, phratries among the Sekani did not function with respect to land ownership and use. Instead, the Sekani phratries organized people at funerals and allowed the Sekani to interact economically and ceremonially with the Gitksan and Carrier, where phratries were well established. The phratric system among the Sekani broke down periodically and became revived when contact with the Carrier and Gitksan increased (Jenness 1937:46-50; Denniston 1981:438-439). In 1924 phratries among the Sekani were weak and disappearing (Jenness 1937:50), and by 1979 the phratric system had completely disappeared (Lanoue 1992:184).

4.2.3 Traditional Sekani Cultural Landscape and Seasonal Round

Unlike the Carrier, the literature on the Sekani contains little specific information that allows for the reconstruction of a detailed cultural landscape and place specific annual round prior to ca. 1850. The literature, however, does show that the Sekani in the 18th and early 19th centuries comprised small nomadic hunting and gathering groups that ranged over vast, often rugged, territories in their search for game and other food resources. Obviously these activities had some impact on the landscape, but to what extent and in what pattern, is difficult to determine from the literature.

The Sekani were primarily hunters, who relied on a wide range of big and small game for their sustenance: caribou, moose, mountain sheep, mountain goats, bears, beaver, marmots, rabbits, groundhogs, porcupine and grouse. In the late 18th and early 19th centuries, some Sekani groups hunted bison, wapiti and moose in their former territories east of the Rocky Mountains.

Fish resources were also important. Apart from salmon resources at Takla Lake and Bear Lake and near Stuart Lake, most Sekani streams were part of the Arctic (Mackenzie) drainage and were without salmon, a major determinant of Carrier settlement patterns. The Sekani caught whitefish, char, trout and suckers.

The seasonal round of the Sekani has been outlined by Jenness (1937:1-2) and by Denniston (1981:436), but it has not been reported in specific detail, nor comprehensively. From November to mid-summer, the Sekani roamed in the plateaux and mountains. They subsisted partly on caches of dried meat prepared in the fall, but for their survival, depended on game throughout the winter. The Sekani hunted caribou, moose and deer on the snow by running them down with dogs. Beaver were caught near their lodges, in babiche nets set in holes cut into the ice (Morice 1895:66-67). Holes cut in the ice also allowed fishing with leister spears and fish hooks (Jenness 1937:38-39).

When the snow had melted, the Sekani relied on snares to catch a wide range of big and small game. The hunters would set a line of snares on caribou trails in narrow mountain passes and valleys and drive the caribou herd into the snares, capturing many of the animals (Morice 1895:100-101). Mountain sheep, goats, bears, moose, lynx, marmots, hares, grouse and waterfowl were also taken with snares (Morice 1895:95-104), presumably set on or near game trails. Deadfalls were also used to take groundhog, fisher, marten and bear. Surplus meat, especially during the summer, was dried and cached for winter provisions.

In spring the Sekani collected spruce bark for a variety of purposes: canoes, containers and roofing.

In mid-summer the Sekani went to lakes to fish trout, whitefish, carp, and suckers. In recent times, some Sekani learned the technology for weirs and fish traps from the Carrier and used these devices on Sekani streams (Jenness 1937:42). Sekani living at Bear Lake and Takla Lake, where salmon was available, undoubtedly used weirs and traps there.

Relatively little is known of Sekani settlements in the late 18th and early to mid-19th centuries. The constant nomadism in relation to available game precluded the establishment of villages with well defined structures. Sekani villages of permanent or substantial structures developed later at fur trade posts. Nonetheless, earlier there were probably good camping locations that were used repeatedly by the Sekani on their travels. Sekani houses were small and temporary, consisting of a conical framework of poles covered with spruce bark or dressed moosehides (Morice 1895:192-193). In the summer the Sekani also built lean-to shelters or windbreaks covered with boughs, spruce bark or hides. Little is known of Sekani food caches, whether they were subterranean or built on poles; however, in treeless areas such as the Groundhog country, the T'lotona Sekani built caches atop high stone platforms (Jenness 1937:37). The Sekani cremated their dead and buried the ashes near an old campsite or on a familiar hunting territory (Jenness 1937:59). The dead were also covered with the brush shelters in which they had lived. Influential persons were sometimes closed up in a standing position in the natural hollows of living trees (Morice 1890:146).

The traditional Sekani have been characterized as "entirely nomadic," consisting of small hunting groups closely following available game. While the movements of a number of mammals hunted by the Sekani, particularly migratory caribou, are predictable to some extent, the relationship of mammals to seasonal locales is considerably less than that of salmon, therefore Sekani land use is less tied to specific locales and sites than is the land use of peoples for whom salmon is a staple. The traditional Sekani cultural landscape basically consists of small camp sites, trails, caches and culturally modified trees. The involvement of the Sekani in the fur trade changed their land use significantly in that they developed permanent "villages" at fur trade posts such as Fort Grahame and became part of a commercial trapping industry. All this made the Sekani less "nomadic." Nonetheless, they continued to live largely off the land and they are renowned for their skill as hunters.

4.3 Shuswap

The traditional territory of the Shuswap covers a large area of south central and eastern British Columbia (see Dawson 1892; Teit 1909:Fig. 199): the Fraser River Valley from High Bar to Soda Creek, the immense drainage of the Thompson and North Thompson Rivers, as well as the headwaters of the Fraser River, the Canoe River and part of the Big Bend of the Columbia River, and the Columbia River Valley north of the Arrow Lakes. In the south, Shuswap territory formerly extended southward to the head of Okanagan Lake and the Shuswap hunted in the country on the east side of the lake to Penticton, the Okanagan have gradually expanded northward into that area (Teit 1930:213; Swanton 1952:432).

The northeastern limits of Shuswap territory are not known exactly, but according to maps and descriptions of traditional Shuswap territory (Dawson 1892; Teit 1909:Fig.199), the north limits of Shuswap territory coincided approximately with the north boundary of Robson Valley LRMP, and all of Robson Valley LRMP is within traditional Shuswap territory.

It should be noted, however, that in the early 19th century the southward expanding Sekani temporarily occupied the northern half of Robson Valley LRMP, to about the head of the Canoe River (Teit 1909:450). The Sekani apparently lost the area through warfare with the North Thompson tribe (Teit 1909:540,542). Moreover, all of Robson Valley LRMP also is within the traditional territory of the Lheit'Lit'en First Nation (B.C. Treaty Commission 1994). Robson Valley also is included in a comprehensive claim submitted by the Carrier-Sekani Tribal

Council (Indian and Northern Affairs Canada 1991). Since that submission, the Lheit-Lit'en Nation has defined their traditional territory, which includes all of Robson Valley LRMP, among other areas (B.C. Treaty Commission 1994).

The name Shuswap is an anglicisation of Suxwa'pmux or Sexwa'pmux, the collective name that the Shuswap apply to themselves (Teit 1909:449). The Shuswap include at least seven large tribes, each consisting of one or more bands with a recognized territory. Seven Shuswap tribal divisions and bands have been distinguished (see Teit 1909:452-456; Swanton 1952:595; Duff 1964:30-32), but only the Tekkakalt tribal division is relevant to Robson Valley LRMP.

Tekkakalt or Tekkekaltemuk, 'people of the upper reaches or top' are also known as the "North Thompson Shuswap." These people occupied the whole North Thompson region and are probably the only Shuswap tribal division with historical relevance to the Robson Valley LRMP area. Three separate bands were distinguished historically (Teit 1909:454-455, 460):

> (1) Nsi'mpxemux 'people of North Thompson River,' who lived on the lower North Thompson with their main village about 50 miles above the river mouth. These people are today the Chu Chua Indian Band (Coffey *et al.* 1990:34).
>
> (2) Texqa'kallt (Tekkakalt), 'people of the upper reaches proper' or Xexka'llt, 'those at the top.' This second band also was called "the Rocky Mountain Shuswap." At one time this band was more numerous. They had no main village, but assembled at Pesskala'ten, 'salmon place,' near Tete Jaune Cache and wintered in groups of a few families along the upper North Thompson River; a number of families lived at the head of the Fraser River and eastward through the Rocky Mountains to Jasper House (Teit 1909:460). They intermarried extensively with the Cree and more recently with the Iroquois (Teit 1909:451). By the end of the 19th century, most of these mixed people were located in the vicinity of Jasper House, east of Rocky Mountains (Teit 1909:454-455). The Rocky Mountain Shuswap were almost completely nomadic and inhabited the headwaters of the North Thompson River, Yellowhead Pass, and Jasper House. According to Teit (1909:460), the band was not within any Indian Agency and had no Indian Reserves. Also referred to as the "Upper North Thompson," they were estimated in 1903 at 70 persons or less, and today they are extinct as a band or as an extant named group (Coffey *et al.* 1990:9,34).
>
> (3) Kinbasket, also called the Kootenai Shuswap, originally belonged to the North Thompson Shuswap, but split off in the 1850s (Dawson 1892:5). The Kinbaskets are said to have travelled down the Canoe River to the Columbia. There, they allied with Stoney Indians, who crossed the Rockies via Howse Pass, to get salmon in the Columbia. The Kinbaskets, with Stoney help, established themselves on the upper Columbia River near Lake Windermere; their hunting grounds extended on both sides of the Columbia, northward to beyond Golden (Teit 1909:455). The Kinbasket lived for many years in a nomadic state, ranging in the Columbia Valley, mainly between Golden and Windermere (Teit

19090:460). The Kinbasket have intermarried extensively with the Kootenai, and in 1964 were called the Shuswap Indian Band (Duff 1964:31). Kinbasket traditional territory is outside of Robson Valley LRMP.

The territory of the North Thompson Shuswap included Adams Lake, the Canoe River, part of the Big Bend of the Columbia, part of the Rocky Mountain region near the headwaters of the Athabaska River, and the upper Fraser River north to nearly 54° N. latitude (Teit 1909:454). Much of this territory is contained within Robson Valley LRMP, and possibly the southeast corner of Prince George LRMP; however, the north limits of Shuswap territory in this area are not known exactly.

The Tekkakalt tribe or North Thompson Shuswap tribe eventually became known as the North Thompson Indian Band (Duff 1964:31). Presumably, this modern Indian Band includes some remnants of the Rocky Mountain Shuswap. No Indian Reserves were established in the former Rocky Mountain Shuswap territory in Robson Valley LRMP. The reasons for this are not known, but may have to do with severe reduction and/or absorption of an already small group by the time Indian Reserves were set up.

4.3.1 Literature

The review of literature on the Shuswap focussed on material applicable to the Robson Valley LRMP, which is on the periphery of Shuswap territory. The Rocky Mountain Shuswap who inhabited Robson Valley LRMP are barely mentioned in the literature, which is devoted to the central and southern Shuswap tribes. There are undoubtedly snippets of historical details on the Rocky Mountain Shuswap in archives in Alberta and at the Hudson's Bay Company Archives in Winnipeg, but to pursue these sources for what are diminishing returns is beyond the scope of this project.

Moreover, because Robson Valley is the only part of Shuswap traditional territory to contain a significant Mountain Hemlock subalpine biogeoclimatic zone (British Columbia 1992), the land use and cultural patterns of the more central Shuswap tribes may not necessarily apply to the Rocky Mountain Shuswap, who were "the most nomadic" (Teit 1909:513).

Dawson (1892) and Teit (1909) are the only ethnographers to report on the Rocky Mountain Shuswap, but neither author worked with them. Dawson's information is based on notes provided to him by J.W. Mackay, the Indian Agent for the Shuswap. Teit, whose work is the classical statement of traditional Shuswap culture, collected much of his Shuswap information from several old men in the vicinity of Canoe Creek and Dog Creek on the Fraser River. Teit also collected information on his travels through most of Shuswap territory in 1887, 1888, 1897, 1902 and 1903. He visited all the Shuswap tribes except the isolated ones of the upper North Thompson River (the "Rocky Mountain Shuswap") at Jasper House, the Kinbaskets on Columbia River, and the Arrow Lake Band (Teit 1909:447). Recent accounts of tribal history and culture published by the Shuswap (i.e. Matthew 1986; Coffey *et al.*1990) include material relevant to the Robson Valley LRMP area, but they rely on Teit (1909) for information on traditional culture.

Other contemporary sources on the Rocky Mountain Shuswap are historical accounts of travellers passing through the Yellowhead and Tete Jaune area. Such sources (i.e. McNaughton 1973; Milton and Cheadle 1865) provide some useful, but occasional observations of the Rocky Mountain Shuswap. Such isolated details, however, are insufficient for even an overview of Rocky Mountain Shuswap culture.

Moreover, the potential for relevant historical sources for the Shuswap in the Yellowhead Pass area is low. The pass was not explored until the mid-1820s. The Hudson's Bay Company used the pass as a route to transport leather from the Saskatchewan District to New Caledonia from until ca. 1850. In 1859 and the early 1860s small parties of miners and overlanders crossed the pass to reach the Fraser River and Cariboo gold fields. Given the limited recorded history of an isolated area (see Smyth 1985), the potential there for substantive observations on the Shuswap is low.

4.3.2 Social Organization

The seven Shuswap tribes were made up of a number of "bands." Each band was a group of closely related extended families who wintered together at separate locations and but shared a principal village (Teit 1909:457). Each band was led by an hereditary chief, whose position passed in the male line. The Shuswap also had slaves, who were chattels and not part of Shuswap society, but their children were allowed to become members of the tribe (Teit 1909:570).

The Setlemuk or "Canyon Shuswap" and the Stlemhulehamuk or "Fraser River Shuswap" bands north of Dog Creek adopted more structured elments of social organization from the Carrier, Chilcotin and Lillooet tribes: classes of "nobility" and "commoners," and clans and phratries. By 1850, these elements of social organization were also largely adopted by the Stietamuk or "Lake Shuswap" (Teit 1909:575), but do not seem to have spread to the North Thompson Shuswap.

According to Dawson (1892:14) each band formerly had hereditary hunting grounds, each family having its own hunting places; those who hunt in the grounds of others pay tribute to the owner by a feast of the game. Boas (1891:637) mentions that in the Shuswap groups with nobility and commoners, the hereditary chief receives tribute of the first fish and game of the season. This type of ownership may have applied in bands that adopted the more structured elements of social organization from the Carrier.

Ownership among the North Thompson Shuswap, and probably among the Rocky Mountain Shuswap, likely followed the practise described by Teit (1909:572). Every band had its commonly recognized hunting, trapping and fishing places, but all land, hunting grounds and fishing stations were regarded as tribal property, open to every member of the tribe without restriction. Although hunting, fishing and plant collecting places were tribal property, the chief of the band in whose district they were located acted as a steward of the resource (Teit 1909:573).

4.3.3 The Rocky Mountain Shuswap Seasonal Round

As noted above, Robson Valley LRMP is within the traditional territory of the Rocky Mountain Shuswap, the most peripheral of all Shuswap groups both geographically and culturally. Although the literature contains considerable information on Shuswap seasonal round activities, it does not specifically discuss the round as a cultural pattern. Nor does it make fine distinctions between the various Shuswap groups. The following partial reconstruction of the Rocky Mountain Shuswap annual round and cultural landscape is inferred largely from data that apply to the North Thompson Shuswap tribe, from whom the Rocky Mountain Shuswap are derived.

The literature is almost silent on the seasonal round of the Rocky Mountain Shuswap. Their seasonal round, described below, has been inferred primarily from seasonal activities and resources reported for the Shuswap in general. The seasonal round constructed below also is quite incomplete, but hopefully identifies a number of resources used by the Rocky Mountain Shuswap.

Some Rocky Mountain Shuswap are known to have wintered in small groups on the upper North Thompson River (Teit 1909:460). They likely had few salmon resources to sustain them through the winter, and had to rely on fresh fish and game, much like the Carrier.

A number of plant foods have been recorded for the Shuswap (see Dawson 1892:19-22; Teit 1909:514-515). Not all of those plants are available at the high elevation of Robson Valley LRMP, but the Rocky Mountain Shuswap likely collected edible plants that grew there.Shortly after the snow melted and on into summer, a number of plant foods became increasingly available and were probably gathered: bulbs of the western springbeauty (*Claytonia lanceolata*); bulbs of the dog-toothed violet (*Erythronium grandiflorum*); bulbs of the nodding onion (*Allium cernuum*); leaf stalks and stems of the cow parsnip (*Heracleum lanatum*); young piths of fireweed (*Epilobium augustifolium*); black tree lichen (*Alectoria fremontii*), and the cambium layer of the lodgepole pine (*Pinus contorta*).

In summer and early fall, a number of berries were collected. The most important economically was the service-berry or saskatoon (*Amelanchier alnifolia*) (Dawson 1892:21; Teit 1909:514). Other berries probably collected by the Rocky Mountain Shuswap were: velvet-leafed blueberry (*Vaccinium myrtilloides*), soapberry (*Shepherdia canadensis*), black huckleberry (*V. membranaceum*), raspberries (*Rubus spp.*), hazelnuts (*Corylus cornuta*), and nutlets of the whitebark pine (*Pinus albicaulis*). The whitebark pine grows in abundance at high elevations, and groups of Shuswap camped in those areas for days to gather and eat the nutlets; trees with many cones were cut down to get the nutlets (Dawson 1892:22).

The Rocky Mountain Shuswap probably hunted all the game available in Robson Valley: elk, deer, caribou, sheep, goat, grizly bear, black bear, beaver, wolf, rabbits, and marmot. In

1862 the men were observed to wear only a shirt and a marmot robe (Milton and Cheadle 1865:252-253).

4.3.4 The Rocky Mountain Shuswap Cultural Landscape

The Rocky Mountain Shuswap were "almost completely nomadic" (Teit 1909:454) and therefore probably consisted of a small number of small family groups. Compared to other Shuswap territory where good salmon resources could support a large human population, Robson Valley was probably sparsely populated. The whole "Upper North Thompson Band" or Rocky Mountain Shuswap in ca. 1850, after significant reduction but before the smallpox epidemics of the 1860s, was estimated by a Shuswap elder at 250 people (Teit 1909:465).

Unlike other Shuswap tribes, the Rocky Mountain Shuswap did not have a principal village. Their principal place, where they assembled in late summer to fish salmon was Pesskala'ten near Tete Jaune Cache (Teit 1909:450,460). Their other settlements were camps and wintering sites. These are essentially unknown today.

The Rocky Mountain Shuswap wintered in groups of a few families along the upper North Thompson River from above Little Fort (Teit 1909:460). However, families also must have wintered at the head of the Fraser River and eastward to Jasper House, as a number of families lived "most of the time" in that territory (Teit 1909:460).

According to Teit (1909:492), all the Shuswap except the Lake Shuswap and the Empire Valley Band used underground houses in the winter time. Presumably, the North Thompson Shuswap, and by extension, the Rocky Mountain Shuswap, built underground houses as well, at least during their early colonization of Robson Valley. However, the Shuswap copied the Hudson's Bay Company houses and log cabins began to replace underground houses well before 1858 (Teit 1909:496). The Rocky Mountain Shuswap later may have adopted tipis from plains tribes, because the "Shuswap village" at Tete Jaune in the 1920s had teepees and teepee rings of stones can be found along the route of the Canadian Northern Railway (Wheeler 1979:4-5). However, the salmon fishery at Tete Jaune was used by the Shuswap, Cree and Iroquois (Teit 1909:524).

Winter village sites were located in places that had a southern exposure and were sheltered from cold down-river winter winds (Dawson 1892:8). Other traditional structural features at winter villages were subterranean fish caches. However, the box cache on a platform supported by four posts was used extensively, especially by bands inhabiting the more timbered regions (Teit 1909:495).

Dawson (1892:10) observed that Shuswap burial grounds were located at the permanent (principal) villages and winter villages. The dead were placed in a sitting position and wrapped in deer skins for burial in the ground. Preferred grave sites were sand hills, often on prominent points of terraces or on low hills overlooking the river. Dawson (1892:9) surmised that persons who died in the high plateaux or in the mountains, away from their village, were brought to the village for burial. Persons who died far from home were cremated, and their remains were brought back to their village for burial (Boas 1991:639,643).

Summer dwellings of the Rocky Mountain Shuswap at Tete Jaune Cache in 1862 are described as "bark slants" (Cheadle in Wheeler 1979:14). These are probably either the bark covered lodges or lean-tos commonly used by the northern and eastern Shuswap, whose country was thickly timbered. The lodges consisted of an A-frame of poles covered vertically with strips of bark (Teit 1909:493; Dawson 1892:8). Bark of black pine, spruce, balsam or cedar was used, whichever was readily available or best. Small sweat lodges were also built on the banks of creeks near hunting and fishing camps (Boas 1891:635; Dawson 1892:9).

At summer camps, berry presses similar to those described for the Carrier (i.e.Morice 1895:125-127) were used (Dawson 1892:21). A berry press was observed in the Shuswap camp at Tete Jaune Cache in 1862 (McNaughton 1973:105).

In the vicinity of digging grounds of the tiger lily (*Lilium columbianium*) and the wood lily (*L. philadelphicum*), the bulbs were baked in shallow pits of hot stones (Boas 1891:637; Dawson 1892:9). Other bulbs and roots, such as the western springbeauty and the nodding onion, also were probably cooked in such pits. According to Dawson (1892:19-20), camps were established in the plateaux and mountains in early autumn for harvesting the lily bulbs which were the most important root food for the Shuswap.

Various basket fish traps used in small streams and near the outlets of lakes are described by Teit (1909:527-530), and some of these probably were used by the Rocky Mountain Shuswap for trout, ling, whitefish and kokanee. Traps were placed in small streams that trout run up to spawn (Dawson 1892:16).

It is assumed that the Rocky Mountain Shuswap did not build the large river weirs and netting stations of their cousins who were blessed with good salmon rivers. The known salmon fishery of the Rocky Mountain Shuswap, located near the headwaters of the Fraser, provided very poor fish (Teit 1909:524). In 1862 the Rocky Mountain Shuswap were observed at their salmon fishery about seven miles below Tete Jaune Cache. They speared the nearly dead salmon or waded into the river and threw the fish onto the bank or into a canoe (McNaughton 1973:104).

Game migration routes and trails appear to have been key places for taking game in snares and enclosures used with drives. Snares, like those of the Carrier, were used for rabbits, deer, caribou and bears (Teit 1909:524). The also Shuswap built various fences of poles to take large game in drives. The Lake Shuswap used corrals extensively for catching deer (Teit 1909:521) and such devices were very likely used by the Rocky Mountain Shuswap. These corrals were built at small lakes that deer crossed in their fall migrations. Migration routes of game appear have been important for the placement of such devices. Impaling traps were also set for deer and caribou (Teit 1909:521). Enclosures were also built on mountain tops, where sheep and deer were driven and then shot. Mountains that culminated in small, round, open tops were favoured places for driving bands of sheep and deer up to the top, where hunters closed in and shot them. Dogs were used to drive deer into enclosures (Boas 1891:636-637). In the early 19th century, when elk were a major game animal of the Shuswap, they were probably taken in enclosures.

4.3.5 Sociocultural Change

The cultural patterns described above for the Rocky Mountain Shuswap in Robson Valley have been influenced by several historical events and processes. They include: (1) the former abundance of elk (wapiti); (2) the recent colonization by the Shuswap; (3) the adoption of the horse; (4) the adoption of log cabins; and (5) extensive intermarriage with non-Shuswap peoples.

Formerly, the elk was "the chief object of the chase" among the Shuswap, but the widespread acquisition of firearms made the elk easy to hunt and, by the mid-19th century, it was "practically extinct" (Teit 1909:513). Maps showing the modern distribution of elk species (Banfield 1977:400) confirm that the elk is extinct in most of mainland British Columbia, including Robson Valley. Hence, the pre-1846 Rocky Mountain Shuswap seasonal round and cultural landscape may have been more oriented to elk hunting areas, especially to the migration routes of elk. In mountainous regions, elk spend the summer in alpine meadows, and upon the arrival of heavy snows in October and November, move down to the valleys (Banfield 1977:399). Their favoured terrain there is wooded hillsides, lake shores, and islands in lakes and rivers. In spring, the elk follow the melting snowline and fresh sprouting grass up the mountainsides.

According to Dawson (1892:5), the Shuswap "emigrated" into the Robson Valley area about "40 years ago" (ca. 1850). If that is so, the Shuswap presence in Robson Valley will have little time depth, and their small population, estimated at about 250 people in ca. 1850, probably left little impact on the landscape. There also is the possibility that this Shuswap "colonization" of Robson Valley recurred periodically when earlier colonizers became extinct, leaving an area uninhabited.

The Shuswap acquired the horse in the early 19th century (Dawson 1892:14). Prior to the horse, the Shuswap travelled on foot and by canoe. It is difficult to know the exact effect of the horse on Shuswap subsistence and the cultural landscape. The horse probably increased the catchment areas around Shuswap camps and villages, thereby resulting in fewer camps and in more distant camps located in areas less accessible by foot. The necessity of grazing areas for horses may have become a factor in selecting preferred sites for camps and villages. The horse may have enabled the Shuswap to colonize Robson Valley in the mid-19th century by allowing greater access to limited resources in a difficult environment.

After the Shuswap came into prolonged contact with European fur traders in the early 19th century, they soon adopted log cabins. The log cabin began to take the place of the underground house long before 1858 (Teit 1909:496). The implications of the log cabin are not entirely clear, but log cabins, together with the horse extending the catchment area of settlements, may have contributed to greater permanence of villages and camps, and may reflect a less nomadic seasonal round. The early adoption of log cabins also means that early historic sites with remains of these log structures should not be assumed to be non-Indian in origin.

The Rocky Mountain Shuswap are known to have intermarried extensively with the Cree and Iroquois (Teit 1909:451). These non-Shuswap peoples probably contributed elements from their cultures to the Rocky Mountain Shuswap seasonal round and cultural landscape in Robson Valley. As noted earlier, the Rocky Mountain Shuswap became extinct as an extant social group in the 20th century. Undoubtedly European diseases reduced their numbers severely, but absorption into non-Shuswap groups was probably also a factor. Around the turn of the century, the Rocky Mountain Shuswap were concentrated around Jasper House (Teit 1909:460). There, they may have been absorbed into the plains tribes.

4.4 The Gitksan

The traditional territory of the Gitksan consists of essentially the Skeena River drainage above Kitselas Canyon and part of the upper Nass River drainage (Halpin and Seguin 1990:Fig. 1; B.C. Treaty Commission 1994). The northeastern area claimed as traditional territory by the Gitksan includes the drainage of the headwaters of the Skeena River and Bear Lake on the east side of the Coast Mountains (Indian and Northern Affairs Canada 1991; McEachern 1991: Map 2). The Gitksan claim to their traditional territory has been the subject of a long and famous court case, *Delgamuukw et al. versus Her Majesty The Queen in right of British Columbia and the Attorney General of Canada* (see Gisday Wa and Delgam Uukw 1989; McEachern 1991).

The Gitksan territorial claim covers approximately the northern third of Fort St. James LRMP. The comprehensive claim submitted by the Gitksan-Wet'su'wet'en Tribal Council to Indian and Northern Affairs Canada includes the drainage of the headwaters of the Skeena River and the Sustut River--essentially the drainage north of Bear Lake (Indian and Northern Affairs Canada 1991). However, this area defined in the Gitksan-Wet'suwet'en court case was larger, including all of Bear Lake and the western side of the northern half of the Driftwood River drainage (McEachern 1991:Map 2; Gisday Wa and Delgam Uukw 1989).

It should be noted that much of the Gitksan claim to the northern part of Fort St. James LRMP is subject to two overlapping comprehensive claims by other aboriginal peoples. The Carrier Sekani Tribal Council have submitted a comprehensive claim which covers most of the Gitksan claim in the Fort St. James LRMP (Indian and Northern Affairs 1991), and recently the Carrier Sekani Tribal Council included all of Fort St. James LRMP within their traditional territory (B.C. Treaty Commission 1994). The Association of United Tahltans includes the north end of Fort St. James LRMP within their comprehensive claim submission to Indian and Northern Affairs Canada (1991). The southern boundary of the Tahltan claim within Fort St. James LRMP is about 15 km north of the confluence of the Mosque and Skeena Rivers (Indian and Northern Affairs Canada 1991).

Gitksan is the Gitksan people's name for themselves in their own language, also called Gitksan, and means 'people of the Skeena River' (Halpin and Seguin 1990:282). They inhabit the Skeena River above Kitselas Canyon: their territory on the Skeena River begins about 20 km upstream from Terrace. While the Gitksan territorial claim includes part of the upper Nass drainage and the headwaters of the Skeena River and Bear Lake, historically Gitksan settlements are concentrated on the Skeena River below the Babine River and especially around Hazelton (Halpin and Seguin 1990:Fig.1).

The Gitksan historically consisted of seven winter village groups, each named after its village. The most northern historical Gitksan village upriver on the Skeena is Kuldo. Kisgegas, also a northern village, is located on the Babine River, near its confluence with the Skeena. All the historically known Gitksan settlements are associated with rich salmon fisheries.

Kuldo and Kisgegas are the closest Gitksan local groups and villages to Fort St. James LRMP. They are reported to have hunting territories in the upper Skeena drainage (Halpin and Seguin 1990:269).

No Gitksan villages are specifically recorded within Fort St. James LRMP. However, after 1827 Gitksan parties travelled up the Skeena River to trade at Fort Connelly on Bear Lake, and the Gitksan formed a settlement at the Fort, where Sekani and Carrier groups also traded and lived in close proximity. Some of these Gitksan people at Fort Connelly intermarried with some Sasuchan Sekani and ca. 1850 they became a separate Sekani group known as the T'lotona or Long Grass Indians (Jenness 1937:12-14,18,60). They inhabited the grassy plateau country at the headwaters of the Skeena River.

4.4.1 Literature

The review of literature on the Gitksan focussed on land use information that applies to Fort St. James LRMP, which is on the periphery of the Gitksan traditional territory. The LRMP also is characterized by the Sub-Boreal Spruce biogeoclimatic zone, in contrast to the wetter Interior Cedar Hemlock biogeoclimatic that typifies the Gitksan heartland.

There is considerable literature on the Gitksan, but most of it focusses on social organization, iconography, potlatching, and art. Specific data on land use is often embedded in the fieldnotes of William Beynon and Marius Barbeau, and most data relate to Gitksan occupation of the Skeena drainage downstream from Fort St. James LRMP. The most useful overview of Gitksan culture and land use is by Halpin and Seguin (1990). The Gitksan have also explained their social and cultural relationship to the land (Gisday Wa and Delgam Uukw 1989).

Gitksan use and occupation of their territory has been an central issue in the Delgamuukw court case, and a number of expert witness reports and evidence summaries in that case were consulted for material relevant to Fort St. James LRMP: Albright (1987), Brody (1987), Cove (1987), Daly (1987), Marsden (1987), Ray (1987), and Robinson (1987). These studies pertain largely to the central territory of the Gitksan and Wet'suwet'en, and contribute little direct information on the Fort St. James LRMP area. In fact, after examining the evidence for the extent of Gitksan traditional territory, the court severely reduced the submitted territorial claim, which included the north part of Fort St. James LRMP (McEachern 1991:Map 2). The court concluded that when British sovereignty was declared in 1846, Gitksan territory in the north part

Oof Fort St. James LRMP included only the area south of the Sustut River (McEachern 1991:Map 5, 283-287).

4.4.2 Social Organization

Historically, the Gitksan consisted of seven named village groups (Halpin and Seguin 1990:283). Each village consisted of a number of named corporate matrilineages known as "houses" that occupied a number of dwellings. Each house was led by a chief and consisted of members of the matrilineage, their affines, children belonging to other lineages, and salves. Each house owned fishing, hunting and gathering territories, which it exploited under the direction of the chief. In addition to real estate, each house owned crests and privileges that explained the history of the house, especially its relationship to economic resources and the world (see Gisday Wa and Delgam Uukw 1989).

The Gitksan were also organized on a kinship basis into four matrilineal clans, but at the village level traditionally two clans were present (Halpin and Seguin 1990:274-275). Gitksan chiefs were not organized above the clan level; there was no village chief who had authority over the houses forming a village. Gitksan kinship was the Iroquois type.

4.4.3 Gitksan Seasonal Round

The Gitksan seasonal round is treated very generally in the literature. The summary here is based on the outlines by Halpin and Seguin (1990) and by Daly (1987).

At the end of winter, before the breakup of river ice, a number of Gitksan families travelled from their winter villages overland to the oolichan fisheries on the Nass River, where they made grease and dried oolichans for later consumption.

In summer, when the salmon arrived upriver, the Gitksan moved to seasonal camps at their traditional fishing sites on the Skeena. As many species of berries ripened, they were collected through the summer, starting with early ripening salmon berries and ending in autumn with wild crabapples and high bush cranberries. Soapberries were collected for trade as well.

In late summer and early autumn, salmon were caught and dried for winter provisions. After the preserving the salmon, smaller groups went to house territories to hunt game: caribou, bears, mountain goats, marmot, moose and beaver, among other animals. At this time, hunting parties who owned territories in the north part of Fort St. James LRMP probably went there. The villages of Kuldo and Kisgegas appear to have had more of an interior economic orientation. Both villages are said to have had hunting territories in the headwaters of the Skeena.

Winter was passed in winter villages, relying on dried salmon, dried meat, oolichan oil, and berries. The diet was probably supplemented with fresh game. Winter also was a focus for ceremonialism.

4.4.4 The Gitksan Cultural Landscape

Almost nothing is known of the Gitksan cultural landscape in Fort St. James LRMP. The Gitksan went into this area to trade at Fort Connelly (established 1827) and to hunt game.

According to Gitksan informants, there were formerly "part-time villages" in the hunting grounds, which were abandoned as the Gitksan consolidated in their present villages around the turn of the century (Adams 1969:16). Such "part-time villages" were in the Gitksan heartland; however, it is conceivable that at least some villages were located in Fort St. James LRMP.

The known Gitksan cultural landscape must have consisted of camps located on or near trails. Trails followed the river systems and crossed mountain passes separating rivers. The importance of trails in the Gitksan cultural landscape has been described by MacDonald (1980:18-23; 1984:75-77). Major trails linked the Gitksan groups, as well as the Gitksan and their neighbours in trade networks. Such a trail from Kuldo followed the Skeena to the tributary that leads to Fort Connelly at Bear Lake (MacDonald 1980:19,22). Major trails can make a significant imprint on the landscape. For example, the Kitwankul trail between the Skeena and Nass Rivers was reported to be as much as one metre deep where it cut over hills and ridges (MacDonald 1980:16).

In addition, numerous secondary trails linked every village and major economic resource area. Many trails had alternate routes, depending on seasonal and local conditions. During spring flooding, higher trails might be followed along rivers, or heavy snows blocking passes would require other routes.

There are no known Gitksan winter village sites in traditional Gitksan territory in Fort St. James LRMP. The probability of large Gitksan villages being present there earlier is very low, because of limited salmon resources necessary to sustain sizeable settlements. Salmon resources in the headwaters of the Skeena were probably limited in quantity, quality, and species. Salmon there would be less abundant and rather poor after such a long upriver journey; apparently only coho and steelhead are found in the headwaters of the Skeena.

4.4.5 Sociocultural Change

There is some question as to how long the Gitksan have been a presence in Fort St. James LRMP. The Gitksan presence in the Bear Lake area appears to have developed after the establishment of the Fort Connelly trading post in 1827. According to Morice (1895:26-27), Bear Lake and the adjacent country belonged to the Sekani, and the Carriers who inhabited Fort Connelly and hunted in the area did so with the consent of the Sekani; the Sekani considered the Gitksan to be mere intruders, living at Fort Connelly only on Sekani sufferance. According to Adams (1969:12.42) the landholdings of the Gitksan have recently been extended further and further into the interior at the expense of neighbours, however Adam's Gitksan informants asserted that things have always been just as they are now for thousands of years.

4.5 The Tahltan

The traditional territory of the Tahltan covers a vast area in northwestern British Columbia: the drainage basin of the Stikine River and its tributaries as far down as the Iskut River; Dease Lake and Dease River downstream to the Cottonwood, the upper Rancheria River, and the headwaters of the Nass and Skeena Rivers and some southern tributaries of the Teslin and Taku Rivers, including the Sheslay and Nahlin Rivers (Emmons 1911:6; Teit 1956:43; MacLachlan 1981:459; Albright 1984:10). The southern tip of Tahltan traditional territory includes the northern tip of Fort St. James LRMP, from about 15 km north of the confluence of the Mosque and Skeena Rivers (Indian and Northern Affairs Canada 1991). The Tahltan area is also covered by overlapping claims of the Gitksan (McEachern 1991:Map 2) and of the Sekani (Indian and Northern Affairs Canada 1991; B.C. Treaty Commission 1994).

The Tahltan are Athapaskan speakers. They have adopted the collective name Tahltan for themselves from the Tlingit, and otherwise referred to themselves by village group names (MacLachlan 1981:465). Today, the major Tahltan settlement is at Telegraph Creek. There are no modern Tahltan settlements in Fort St. James LRMP.

4.5.1 Literature

As noted above, the Tahltan territory in Fort St. James LRMP is peripheral to the areas of major Tahltan settlement on the Stikine River system which has major salmon resources. According to legend and recorded demography (Emmons 1911; MacLachlan 1981:458-9), the Stikine River canyon is the heartland of the Tahltan. The literature review (and cultural summary here) has focussed on information that applies to Fort St. James LRMP. This area of the LRMP is characterized by the Sub-Boreal Spruce biogeoclimatic zone, in contrast to the Sub-Boreal Pine-Spruce biogeoclimatic zone that typifies the Stikine Valley and heartland of the Tahltans.

There is a moderate literature on the Tahltan. Historical sources are limited. Principal ethnographies of Tahltan traditional culture were made mainly just after the turn of the century by Teit (1906, 1914, 1956) and by Emmons (1911). Tahltan culture and society are aptly summarized by MacLachlan (1981). Recently, Albright (1984) has prepared a valuable summary of Tahltan culture and reported on specific site use relative to the Fort St. James LRMP.

4.5.2 Social Organization

The Tahltan were divided into two exogamous moities. Each moiety, in turn, had four clans named after geographical areas in which each clan claimed hunting rights (Albright 1984:11). The clan consisted of a group of families claiming matrilineal descent from a common ancestor and ownership of a certain district. Each clan was led by its own chief, who held a hereditary position that was passed on through the maternal line. The clan chief was steward of the clan's territory and he directed all economic activities in relation to it.

Based on Teit's notes, Albright (1984:10) has reconstructed the clan territories and Tahltan tribal boundaries. Fort St. James LRMP includes part of the territory of the Tlepanoten clan.

4.5.3 Tahltan Seasonal Round

The Tahltan practiced a seasonal round that enabled them to exploit seasonally abundant, localized resources in their territory (see Emmons 1911:30,39; Albright 1984:85-91). In early June, essentially spring in Tahltan country, women collected bark and roots from various tree species for covering roofs and making basketry and cordage. Men repaired houses and fish traps in preparation for the fishing season.

From mid-June to mid-August, families congregated at permanent fishing villages, usually located at major creek and river confluences and outlets of lakes. Large runs of salmon passed these places and could be taken in weirs and traps. Two of these fishing villages have been recorded in Fort St. James LRMP. Kluetondon is at the mouth of a creek flowing into the headwaters of the Skeena River, and Klueyaza is at the outlet of a small lake upstream on Kluetondon Creek (Albright 1984:85-86). Families caught large quantities of salmon, and dried them for winter provisions.

In mid-August, families moved from their large village sites in the river valleys to small seasonal camps in alpine areas. Such camps were typically located near the heads of small creek valleys that are tributaries of rivers. In these areas men hunted larger game animals such as sheep, goats, caribou, and bears. Caribou were captured by drives and taken in snares or killed at close range. Women and children snared marmots, gophers, ground squirrels and ptarmigan, and collected berries. The meat of these animals was dried and the fat rendered for winter use. Dried beries were also stored for winter.

In the fall, families moved to winter camps located in forested valleys with abundant firewood and caribou yarding areas or migration routes. Although the winter provisions were used, game was hunted in winter whenever conditions allowed: moose, caribou, beaver, hare, grouse, and porcupine. Ice fishing of trout and other non-anadromous fishes also was practiced.

In late April, families moved to small seasonal camps at good fishing lakes and streams to get trout and grayling. Hundreds of these fish would be dried for later use. Rabbits and grouse could be snared. Roots, shoots and cambium of several plants were collected.

In spring, the Tahltan also hunted migratory waterfowl, beaver, and bears emerging after hibernation. Soon it was time to move to the fishing villages, and a new cycle of seasonal moves began.

4.5.4 Tahltan Cultural Landscape

The most prominent feature of the Tahltan cultural landscape is the permanent fishing villages. They consisted of large communal houses, subterranean caches, smokehouses, and grave houses. In the dry interior climate preservation of wood is good (Albright 1984:88), and remains of these structures should be found in the cultural landscape. Likewise, remains of caribou fences and smaller seasonal camps should be present. Trails linked all these camps and villages, and especially after generations of seasonal movements, trails should be evident in the cultural landscape.

4.5.5 Sociocultural Change

Very little is recorded historically on the Tahltans and their earlier way of life, so little is known of sociocultural change. However, Emmons makes some insightful comments. At the time of his ethnographic fieldwork in the early 20th century, caribou and moose were the main food supply of the Tahltans. These large game animals are easily taken with firearms. Emmons suggests that prior to firearms, the Tahltans depended more on smaller animals that could be taken easily with snares: especially the ground hog, marmot, and rabbit; and fish were also probably more important in earlier times (Emmons 1911:62-63).

Today, the moose is a major source of food, but in earlier times the caribou was as important to the Tahltan as the buffalo was to the plains tribes and as the seal was to the Eskimo (Emmons 1911:69). The animal next in economic importance, expecially in earlier times, was the marmot; they were abundant and easily caught for winter supplies (Emmons 1911:76).

5.0 PREVIOUS ARCHAEOLOGY

This section briefly describes and discusses previous archaeological research conducted in the Robson Valley, Prince George, Vanderhoof, Fort St. James, and Lakes LRMP subregions. Previous research which has generated information particularly relevant to this study is emphasized. Major inventory studies are included, along with more limited studies which have provided unique information about prehistoric land use. Detailed data from many of the inventory studies have been incorporated into the model of archaeological resource distribution presented in Section 6.0.

Summaries of previous archaeological research in each of the LRMP Study Areas are reported separately below.

5.1 Robson LRMP Subregion

Relatively few archaeological investigations have been carried out within the Robson Valley LRMP subregion, and the area remains one of the least-studied parts of British Columbia. A survey included the Robson Valley from the Yellow Head Pass on the Alberta border, to the point where the Fraser River enters the Rocky Mountain Trench just east of McBride, B.C., and north to the Robson Valley Forest District boundary north of Goat River

(Keddie 1971). The Tete Jaune Cache locality was revisited by Martin and Robinson (1972) as part of a survey of the Upper Fraser drainage, and by Bernick and Clark (1977) as part of a survey of interior historic sites. Yellowhead Lake, the east end of Moose Lake, and the confluence of the Robson and Fraser Rivers were surveyed by Rafferty (1976) during reconnaissance of high use areas in Mount Robson Provincial Park, and intensive systematic surface survey has been carried out around Whitney Lake and on the south-central side of Yellowhead Lake (Irvine 1979). An inventory and impact assessment were conducted just north of Tete Jaune Cache in response to upgrading of the Highway 16/Highway 5 interchange (Rousseau and Muir 1991). A proposed transmission line between the Salmon Valley Substation and Valemount was surveyed (Scott and Bates 1975). Archaeological resource inventory and impact assessment of a proposed transmission line corridor crossing the Fraser River east of East Twin Creek was conducted near McBride, B.C. (Zacharias 1990). A heritage site inventory and impact assessment for the B.C. Telephone Company Lightguide Transmission System passed through the northern part of the Robson Valley LRMP subregion, from Gosnell, B.C. through Tete Jaune Cache, to Yellowhead (Arcas 1988, 1989).

No archaeological excavations have been conducted in the Robson Valley subregion; however, subsurface testing was included as part of several of the above assessments and inventories.

Sixteen historic and prehistoric archaeological sites are recorded in the Robson Valley LRMP subregion. These include 10 historic sites, 5 prehistoric sites, and one site reported to have both historic and prehistoric components. Recorded prehistoric sites include: habitations with associated subsistence features such as cache pits; isolated cache pits; and surface and subsurface cultural materials, including stone tools and stone waste flakes. Historic archaeological sites include: the historic townsite of Lucerne; habitations, including both tent encampments and more permanent cabins and outbuildings; placer mining test hole sites; cemeteries; and scattered cultural materials (historic trash). Table 5.1 presents a summary of the range of archaeological resources found at the 16 archaeological sites recorded in the Robson Valley LRMP subregion. As discussed in Section 1.0, more than one kind of archaeological resource may be present at any single site.

TABLE 5.1. Robson Valley LRMP subregion: documented archaeological resources

Prehistoric Resource Types	N	Historic Archaeological Resource Types	N
Cultural Material	3	Commercial	2
Earthwork	0	Communications	0
Habitation	2	Cultural Materials	3
Human Remains	0	Education	0
Petroform	0	Farming, Ranching	0
Pictograph	0	Government	1
Subsistence Feature	3	Habitation	4
Trail	0	Human Remains	2
		Industrial	2
		Medical	0
		Religious	0
		Social	0
		Subsistence Feature	3
		Transportation	1
TOTAL PREHISTORIC	**8**	**TOTAL HISTORIC**	**18**

5.2 Prince George LRMP Subregion

The majority of archaeological investigations in the Prince George LRMP subregion have taken place in response to development projects, and river valleys and lakes have received the most attention (e.g. Hudson 1974; Sneed and Brown 1974; May 1977; Hansen and Canuel 1978; Irvine 1979; Bussey 1981, 1993; Wilson 1985, 1993; Walde 1990). A prehistoric settlement at Punchaw Lake was investigated as an archaeological field school project (Fladmark 1973; Helmer and Wilson 1975), as was research at McLeod Lake (Burley and Quackenbush 1986; see also Bedard 1992). Upland areas, particularly the montane alpine, remain largely uninvestigated.

Of the 271 archaeological sites recorded in the Prince George LRMP subregion, 239 are prehistoric, 30 are historic, and two have prehistoric and historic components. The inventory of prehistoric archaeological sites is dominated by the results of two seasons' study of the shores and islands of Carp Lake. Of 118 archaeological sites recorded there, 109 are circular cultural depressions relating to food preparation and/or storage. Prehistoric habitation depressions, a trail, and historic cultural material are also recorded at Carp Lake.

Archaeological sites at McLeod Lake include the McLeod's Lake pre-1849 historic fur trade post, cabins and other habitations, trails, prehistoric subsistence features similar to those at Carp Lake, and prehistoric and historic cultural materials. Other major investigations include excavations at the prehistoric habitation site at Punchaw Lake, where 43 house platforms, 57 storage pits, a trail, and surface and subsurface cultural materials were recorded. Sites are also associated with a part of the trail followed by Alexander MacKenzie, along the Blackwater River at the southern part of the subregion.

Table 5.2 summarizes the range of archaeological resources found at the 271 archaeological sites recorded in the Prince George LRMP subregion. As discussed in Section 1.0, more than one kind of archaeological resource may be present at any single site. Detailed information about specific sites is provided in the electronic database (Database I) linked to the map set.

TABLE 5.2 Prince George LRMP subregion: documented archaeological resources

Prehistoric Resource Types	N	Historic Archaeological Resource Types	N
Cultural Material	75	Commercial	3
Earthwork	5	Communications	0
Habitation	15	Cultural Materials	5
Human Remains	5	Education	0
Petroform	1	Farming, Ranching	1
Pictograph	0	Government	0
Subsistence Feature	186	Habitation	19
Trail	10	Human Remains	1
		Industrial	0
		Medical	0
		Religious	0
		Social	0
		Subsistence Feature	3
		Transportation	5
TOTAL PREHISTORIC	297	**TOTAL HISTORIC**	36

5.3 Vanderhoof LRMP Subregion

Archaeological investigations in the Vanderhoof LRMP subregion have been concentrated around river drainages and lakes. The majority of studies were undertaken in response to proposed development projects. Areas investigated include the Nechako River, including the Chinlac area; Nechako River tributaries and Cluculz Lake; Eulatezella Lake; Tachi and Nulki Lakes; Fraser Lake and the Stellako River; the Nautley River bridge at the east end of Fraser Lake; the Endako River; and the localities of Chutanki Lake, Suscha Lake, Chedakuz Creek and Tatelkuz Lake (Apland 1980; Warner and Wilson 1982; ARESCO 1982, 1983; Wilson 1984; Cranny 1984; Sewell 1950; Warner 1983; Carlson and Bussey 1990; Carlson 1993*a*, 1993*b*; Bernick 1975).

Although subsurface testing accompanied some survey investigations, full-scale archaeological excavations have been conducted at only one site in the Vanderhoof LRMP subregion. Algatcho (also spelled Ulgatcho, Ulkatcho, and Alkatcho) is an old village site near the northeast end of Gatcho Lake (Donahue 1970); the village was occupied until about 1945. Evidence of occupation during the fur trade period is abundant, and the opinion of the excavator is that the village of Algatcho dates from the mid-19th century to 1945 (Donahue 1970:15). However, there is evidence of earlier use of the site prior to the contact period, and this earlier use may have a time depth of up to 4500 years (Donahue 1977).

The majority of recorded prehistoric archaeological sites are comprised of scattered cultural materials, generally representing short term camps. Subsistence features, particularly cache pits (small cultural depressions), and habitation sites, represented by large cultural depressions and platforms, are recorded. Pictographs, a petroform, and several burials have also been recorded. The majority of historic archaeological sites are habitations. Commercial sites (forts, trading posts, bank, store, hotel), an industrial site (mill), an educational and social site (school/meeting hall), and other historic sites are also recorded. Detailed information about specific sites is provided in the electronic database (Database I) linked to the map set.

Of the 366 recorded archaeological sites in the Vanderhoof LRMP subregion, 337 are prehistoric, 15 are historic, and 13 sites have both prehistoric and historic components. Table 5.3 presents the range of archaeological resources recorded in the Vanderhoof LRMP subregion. Note that more than one archaeological resource may be present in a single archaeological site (Section 1.0).

TABLE 5.3 Vanderhoof LRMP subregion: documented archaeological resources

Prehistoric Resource Types	N	Historic Archaeological Resource Types	N
Cultural Material	193	Commercial	7
Earthwork	0	Communications	0
Habitation	46	Cultural Materials	3
Human Remains	6	Education	1
Petroform	1	Farming, Ranching	2
Pictograph	4	Government	1
Subsistence Feature	186	Habitation	10
Trail	3	Human Remains	2
		Industrial	2
		Medical	0
		Religious	0
		Social	1
		Subsistence Feature	3
		Transportation	3
TOTAL PREHISTORIC	439	**TOTAL HISTORIC**	34

5.4 Fort St. James LRMP Subregion

Limited areas of the Fort St. James LRMP subregion have been archaeologically investigated, and it should be noted that archaeological studies in the Fort St. James LRMP subregion are far from complete. In addition to surveys at Stuart Lake (Robinson and St. Pierre 1973; Mackie and Montgomery 1977; Winram and Thomas 1977), archaeological excavations have been conducted at the historic site of Fort St. James at the foot of Stuart Lake (Harris 1974). Surveys and overviews have been conducted at the east arm of Takla Lake (Elliott 1968; McMurdo 1971; Wilson, Bouchard and Heap 1992), and on the Driftwood River and part of the Skeena River (Drew 1974), and a partial survey of Chuchi Lake was made (Davidson 1971).

Sixty of the 69 recorded archaeological sites in the Fort St. James LRMP subregion are prehistoric sites, 3 are historical archaeological sites, and 6 have both prehistoric and historic components. Red ochre pictographs along lake shores, and scattered cultural material are the most frequently recorded prehistoric archaeological remains. Prehistoric habitations with subsistence features, and subsistence features with and without associated cultural materials were also recorded. Settlement related to the fur trade and the fort dominates the record of historic archaeological sites. In addition to the fort, historic settlement features include cemeteries, a church, a wagon trail, and dwellings; some of these are far removed from the locality of the fort. Detailed information about specific sites is provided in the electronic database (Database I) linked to the map set. Table 5.4 presents the range and number of occurances of kinds of archaeological resources recorded in the Fort St. James LRMP subregion. Note that more than one archaeological resource may be present at a single archaeological site (Section 1.0).

TABLE 5.4 Fort St. James LRMP subregion: documented archaeological resources

Prehistoric Resource Types	N	Historic Archaeological Resource Types	N
Cultural Material	20	Commercial	1
Earthwork	1	Communications	0
Habitation	3	Cultural Materials	0
Human Remains	0	Education	0
Petroform	0	Farming, Ranching	0
Pictograph	37	Government	0
Subsistence Feature	8	Habitation	5
Trail	0	Human Remains	2
		Industrial	0
		Medical	0
		Religious	1
		Social	1
		Subsistence Feature	0
		Transportation	1
TOTAL PREHISTORIC	69	**TOTAL HISTORIC**	11

5.5 Lakes LRMP Subregion

Archaeological investigations in the Lakes LRMP subregion have concentrated around major river drainages and the shores and terraces of lakes. Uplands, and many smaller drainages and lake areas have not been investigated. Studies were undertaken for both research inventories (Borden 1951; Mohs 1974, 1975; Mohs and Mohs 1976; Rafferty 1975; Richards 1981), and in response to proposed development projects (Simonsen 1984; Carlson and Bussey 1990; Wilson 1991; French 1993). Areas examined include the shore and environs of Babine Lake; Swans, Elwin, Bulkley, Decker, and Burns Lakes; the upper Endako River near Burns Lake; Tchesinkut, Rose, and Francois Lakes; Mollis, Uncha, Takysie, Wapoose, and Binta Lakes; portions of Cheslatta Lake and the Cheslatta fan; Bulkley, Maxam, Day, Broman, Old Woman, Sunset, Conrad, and Gilmour Lakes; and both sides of the Bulkley River from Bulkley Lake to the Telkwa River (beyond the study area).

Of 142 recorded archaeological sites in the Lakes LRMP subregion, 127 are prehistoric sites. These include: habitation sites, with and without associated subsistence features; subsistence-related sites with features such as earth ovens and cache pits; human remains; pictographs; and sites consisting of surface and/or buried cultural materials including stone tools and waste materials. Of the remaining recorded archaeological sites, 9 consist of historic resources only, while 6 include both prehistoric and historic components. Recorded historic sites include: a police station, a post office and a ranger station; a trading post; a hospital; materials related to a silver mine; several cemeteries; the remains of historic cabins and other residential structures; and historic refuse. Table 5.5 presents the range and numbers of archaeological resources recorded in the Lakes LRMP subregion. Note that more than one archaeological resource may be present at one archaeological site (Section 1.0).

TABLE 5.5 Lakes LRMP subregion: documented archaeological resources

Prehistoric Resource Types	N	Historic Archaeological Resource Types	N
Cultural Material	58	Commercial	1
Earthwork	0	Communications	0
Habitation	17	Cultural Materials	3
Human Remains	1	Education	0
Petroform	0	Farming, Ranching	0
Pictograph	4	Government	3
Subsistence Feature	70	Habitation	4
Trail	0	Human Remains	5
		Industrial	1
		Medical	1
		Religious	0
		Social	0
		Subsistence Feature	1
		Transportation	0
TOTAL PREHISTORIC	150	TOTAL HISTORIC	19

6.0 A MODEL OF ARCHAEOLOGICAL RESOURCE DISTRIBUTION

Results of the ethnographic overviews (Section 4.0) and what is known about the nature and distribution of archaeological sites in the LRMP subregions (Section 5.0) were incorporated into a general model of archaeological resource distribution. The model is based on the locations and nature of biophysical resources, and our understanding of the kinds of past uses of such resources that would also have left archaeological remains. Tabular representations of the model are presented for each LRMP subregion.

6.1 Robson Valley LRMP Subregion

Table 6.1 presents a generalized model of archaeological resource distribution in the Robson Valley LRMP subregion. Environmental units include: Rocky Mountain Trench bottomlands; valley terraces in the Rocky Mountain Trench; river valleys; stream valleys; alpine parkland and passes; and montane alpine areas. Examples of each type of environmental unit and important natural resources within each unit are shown. Documented and predicted archaeological resources, and the range of potential assessments within each environmental unit are presented.

6.2 Prince George LRMP Subregion

A generalized model of archaeological resource distribution in the Prince George LRMP subregion is presented in Table 6.2. Environmental units in this subregion include: the lands surrounding major lakes and rivers; plateaus with small lakes; terraces and plateaus without small lakes; montane and alpine passes; and montane alpine areas exclusive of passes. Examples of each type of environmental unit and important natural resources within each unit are shown. Documented and predicted archaeological resources, and the range of potential assessments within each environmental unit are presented.

6.3 Vanderhoof LRMP Subregion

A generalized model of archaeological resource distribution in the Vanderhoof LRMP subregion is presented in Table 6.3. Environmental units in this subregion include: the lands surrounding major lakes and rivers; plateaus with small lakes; plateaus without small lakes;and montane areas. Examples of each kind of environmental unit, and important natural resources within each unit are shown. Documented and predicted archaeological resources, and the range of potential assessments within each environmental unit are presented.

6.4 Fort St. James LRMP Subregion

A generalized model of archaeological resource distribution in the Fort St. James LRMP subregion is presented in Table 6.4. Environmental units in this subregion include: the lands surrounding major lakes and rivers; plateaus with small lakes; plateaus without small lakes; montane passes and parkland; and montane alpine areas. Examples of each kind of environmental unit, and important natural resources within each unit are shown. Documented and predicted archaeological resources, and the range of potential assessments within each environmental unit are presented.

6.5 Lakes LRMP Subregion

A generalized model of archaeological resource distribution in the Lakes LRMP subregion is presented in Table 6.5. Environmental units in this subregion include: the lands surrounding major lakes and rivers; plateaus with small lakes; plateaus without small lakes; montane passes; and montane alpine areas. Examples of each kind of environmental unit, and important natural resources within each unit are shown. Documented and predicted archaeological resources, and the range of potential assessments within each environmental unit are presented.

7.0 DATA GAPS

To facilitate resources management and land use decision making, it is important to be able to predict potential archaeological site locations with reasonable certainty. Critical to the development of a robust predictive model is the availability of information about sites in a wide range of locations and types. In other words, the information used to build the predictive model should come from all parts of the study area, should represent all geographic settings within the area, and should not be biased towards certain types of archaeological data. Furthermore, the information that is available should be complete, accurate, and current.

Our review of the current state of knowledge about the geographic distribution of archaeological resources in the study area identified four gaps thought to be significant in the development of a robust predictive model. These are: (1) incomplete geographic coverage in the existing archaeological site inventory, (2) emphasis on particular types of sites in the inventory, (3) the existence of limited information on past environments, and how these might have effected human adaptation, and (4) the lack of participation by First Nations in the study. Each of these gaps is briefly discussed below.

7.1 Geographic Coverage

Only small portions of each of the five LRMP Subregions have been systematically

Table 6.1. Generalized model of archaeological resource distribution in Robson Valley LRMP sub-region

Environmental Setting	Location (Examples)	Important Natural Resources	Documented Archaeological Resources	Potential Assessment
Rocky Mountain Trench - Bottomlands	Fraser River valley from N end of sub-region to Tete Jaune Cache; McLennan - lower Canoe River valleys from Tete Jaune Creek to head of Kinbasket Lake	Moderately productive salmon fisheries; high to moderately productive freshwater fisheries; moderate to high ungulate productivity (elk, deer, moose); potable water abundant; transportation routes	Subsistence; habitation; trail; human remains	High - Moderate
Rocky Mountain Trench - Valley Terraces	Fraser River valley from N end of sub-region to Tete Jaune Cache; Mclennan - lower Canoe River valleys from Tete Jaune Cache to Kinbasket Lake; Canoe Reach of Kinbasket Lake	Low productivity salmon and freshwater fisheries; moderate to low ungulate productivity (elk, deer, moose, caribou); potable water present; some transportation routes	Cultural materials; subsistence; trail	Moderate - Unproven
River Valleys	Fraser River from Tete Jaune Cache to Yellowhead Pass; Camp Creek S of Valemount;	Moderate to low productivity salmon fisheries; moderate to high productivity freshwater fisheries; low to moderate ungulate productivity (elk, deer, caribou, moose, sheep); potable water abundant; transportation routes	Subsistence; cultural materials; trail; habitation; human remains	Moderate - High
Stream Valleys	Upper Fraser River valley to headwaters; Hugh Allan and Ptarmigan Creeks; Grant Brook; Moose and Robson River drainages; upper Canoe River; Raush, Goat, McKale, Holmes, and Morkill Rivers; upper Cariboo River drainage	Low productivity salmon fisheries; low to moderate productivity freshwater fisheries; low ungulate productivity (deer, moose, caribou, elk, sheep, goats); potable water abundant; transportation routes	Cultural materials; subsistence; trail	Moderate - Unproven
Alpine Parkland - Passes	Iroquois Creek - upper Hugh Allan Creek passes; upper Hugh Allan and Ptarmigan Creek - upper Fraser River passes; Grant, Miette, Colonel, Upright, Moose Robson, Carcajou, Bess, Jackpine, Beaverdam, Shale, Morkill, Featherstonhaugh, Forgetmenot, and Casket Passes;	Transportation routes; no salmon or freshwater fisheries; low ungulate productivity (caribou, elk, sheep, goats); some potable water	Cultural material; trail; petroform	Moderate - Unproven
Montane - Alpine	E and W of Kinbasket Lake; N and S of upper Fraser River; E and W of Rocky Mountain Trench north of Tete Jaune Cache	No salmon or freshwater fisheries; low ungulate productivity (caribou, sheep, goats); some potable water; few transportation routes	Trail; cultural material	Low - Unproven

Table 6.2. Generalized model of archaeological resource distribution in Prince George LRMP sub-region

Environmental Setting	Location (Examples)	Important Natural Resources	Documented or Predicted Archaeological Resources	Potential Assessment
Major Lakes and Rivers	Fraser River from Rocky Mountain Trench to Prince George and on to S edge of sub-region near Hixon; lower Blackwater River, Chilako, Nechaco, McGregor, Willow, Bowron, Willow, Torpy, Crooked, Hominka, Missinka, and Parsnip Rivers; Punchaw, Naltesby, Eaglet, Purden, Ahbau, Summit, Davie, Carp, Nukko, and McLeod Lakes	High to moderately productive salmon fisheries, high to moderately productive freshwater fisheries; high to moderate ungulate productivity (deer, moose, elk); potable water abundant; transportation routes; lithic raw material sources (Blackwater River drainage)	Habitation; subsistence features; cultural materials; trail; human remains	High - Moderate
Plateaus with Small Lakes	S and W of Carp Lake; W edge of sub-region W and NW of Nukko Lake; W of McLeod Lake; between Davie and Summit Lakes; N and NW of Punchaw Lake; N of Ahbau Lake and between Ahbau lake and Fraser River; between lower Bowron and Fraser Rivers	Moderate to low productivity salmon fisheries; moderate to high freshwater fisheries; moderate to high ungulate productivity (deer, moose, caribou); potable water abundant; some transportation routes	Subsistence; cultural materials; habitation; trail; human remains	Moderate - High
Terraces and Plateaus without Small Lakes	Both banks of Fraser River; E and W of Bowron River; between Nukko and McLeod Lakes; E of McLeod Lake; S of Chilako River; E of Naltesby Lake; W of Willow River	Moderate to low productivity salmon fisheries; moderate to low productivity freshwater fisheries; moderate to low ungulate productivity (deer, moose); potable water present; some transportation routes	Cultural materials; trail; subsistence	Moderate - Unproven
Montane - Alpine Passes	Upper Buchanan Creek and McGregor River passes; Buchanan - Bastille Creek headwaters locality; Kitchi Creek pass; Herrick, Paksumo, Warner, Wapiti, and Monkman Passes; Limestone Lakes locality; Hominka - Missinka River headwaters	Transportation routes; no salmon or freshwater fisheries; low ungulate productivity (caribou, elk, goats); some potable water present	Cultural materials; trail; petroforms	Moderate - Unproven
Montane - Alpine	E of Rocky Mountain Trench; between Fraser and Bowron Rivers; between Bowron and Willow Rivers; between Willow and Fraser Rivers; SE of Carp Lake; between Parsnip and Crooked Rivers; E of Naltesby Lake; Between Blackwater and Chilako Rivers	No salmon or freshwater fisheries; low ungulate productivity (caribou, sheep, goats); some potable water; few transportation routes	Trail; cultural materials	Unproven - Low

Table 6.3. Generalized model of archaeological resource distribution in Vanderhoof LRMP sub-region

Environmental Setting	Location (Examples)	Important Natural Resources	Documented of Predicted Archaeological Resources	Potential Assessment
Major Lakes and Rivers	Fraser, Tachick, Nulki, Clukulz, Francois, Natalkuz, Knewstubb, Hallett, Tahultzu, Tatelkuz, Kuyakuz, Tatuk, Naltesby, Finger, Batnuni, and Tsacha Lakes; Stuart, Nechaco, Chilako, Euchiniko, Blackwater, and Entiako Rivers	High to moderate productivity salmon fishery; moderate to high productivity freshwater fisheries; high to moderate ungulate productivity (moose, deer); potable water common; transportation routes; lithic raw materials (Blackwater River drainage)	Habitation; subsistence feature; cultural materials; trail; pictograph; human remains	High - Moderate
Plateaus with Small Lakes	Between Entiako and Blackwater Rivers; between Entiako River and Johnny - Laidman Lakes; E of Laidman Lake; S and N of Chedacut Creek; between Tatelkuz Lake and Blackwater River; between Nechaco Reservoir and Finger - Tatuk Lakes; between Tachick - Nulki Lakes and Naltesby Lake; between Tahultzu - Hallett Lakes and Fraser Lake; NW of Oona Lake; SW of Stuart River	Moderate to high productivity salmon fisheries; moderate to high productivity freshwater fisheries; moderate ungulate productivity (moose, deer); potable water common; some transportation routes; lithic raw materials (Blackwater River drainage)	Subsistence feature; cultural materials; habitation; trail; human remains; pictograph	Moderate - High
Plateaus without Small Lakes	N of Blackwater River; E of Tatelkuz Lake; N and NE of Finger - Tatuk Lakes; SE of Nulki Lake; NW of Naltesby Lake; NW and N of Fraser Lake and Nechaco River; NW and NE of Cluculz Lake	Low productivity salmon fisheries; low to moderate productivity freshwater fisheries; low to moderate ungulate productivity (moose, deer); some potable water; some transportation routes; some lithic raw material sources (Blackwater River drainage)	Subsistence feature; cultural materials; trail	Unproven - Moderate
Montane	Between Johnny - Laidman Lakes and Natalkuz Lake; E of Knewstubbs Lake; between Kuyakuz and Tatelkuz Lakes; S of Francois Lake; Nation Rivers; between Takla and Nation Lakes; S of Nation Lakes	Some transportation routes; no salmon or freshwater fisheries; low productivity for ungulates (moose, deer); some potable water	Trail; cultural materials	Unproven - Low

Table 6.4. Generalized model of archaeological resource distribution in Fort St. James LRMP sub-region

Environmental Setting	Location (Examples)	Important Natural Resources	Documented or Predicted Archaeological Resources	Potential Assessment
Major Lakes and Rivers	Stuart, Pinchi, Tezzeron, Cunningham, Trembleur, Takla, Bear, Tsayta, Tchentlo, Chuchi, Witch, Inzana, and Great Beaver Lakes; Stuart, Tachie, Middle, Driftwood, Sustut, Skeena, Omineca, Nation, and Salmon Rivers	High productivity salmon fishery (Skeena, Stuart - Nechaco drainages); moderate to high freshwater fisheries (all drainages); moderate to high ungulate productivity (moose, deer); potable water common; transportation routes; lithic raw material sources (Stuart Lake)	Habitation; subsistence feature; cultural material; trail; pictograph; human remains	High - Moderate
Plateaus with Small Lakes	E of Great Beaver Lake; S of Stuart Lake; E and NE of Tezzeron Lake; between Cunningham and Trembleur Lakes; between Takla and Nation Lakes; S of Nation River	Moderate productivity salmon fisheries (Skeena, Stuart drainages); moderate to high productivity freshwater fisheries (all drainages); moderate to high ungulate productivity (moose, deer, and caribou); potable water common; some transportation routes	Subsistence feature; cultural material; habitation; trail; pictograph, human remains	Moderate - High
Plateaus without Small Lakes	Between Pinchi and Salmon Lake; E of Inzana Lake, between Inzana and Trembleur and Nation Lakes; N of Trembleur Lake; E and W of N end of Takla Lake; Squingula River valley; Kluatantan River valley; Skeena - Sustut River terraces	Low to moderate ungulate productivity (moose, deer, caribou); low productivity salmon and freshwater fisheries; some potable water; some transportation routes	Subsistence feature; cultural material; trail	Unproven - Moderate
Montane Passes - Parkland	Headwaters of Kluatantan River and Fire Flats, Kluayaz, Leach and Beirnes Creeks; upper Slamgeesh River and Martin Flats; Canyon Lake; headwaters of Jack Creek and Motase Lake;	Overland transportation routes; some potable water; no salmon or freshwater fisheries; low ungulate productivity (moose, caribou)	Cultural material; trail; petroform	Moderate - Unproven
Montane - Alpine	E and W of Skeena River; N of Omineca River; W of Takla Lake; between Omineca and Driftwood Rivers; between Omineca and Nation Rivers; between Takla and Nation Lakes; S of Nation Lakes	Some transportation routes; no salmon or freshwater fisheries; low productivity for ungulates (moose, caribou); some potable water;	Trail; cultural material	Unproven - Low

Table 6.5. Generalized model of archaeological resource distribution in Lakes LRMP sub-region

Environmental Setting	Location (Examples)	Important Natural Resources	Documented or Predicted Archaeological Resources	Potential Assessment
Major Lakes and Rivers	Babine, Taltapin, Augier, Pinkut, Tchesinkut, Decker, Francois, Uncha, Cheslatta, Ootsa, Natalkuz, Euchu, and Tetachuk Lakes; Sutherland, Endako, Chelaslie, and Entiako Rivers	High to moderately productive salmon fisheries; high to moderately productive freshwater fisheries; high to moderate ungulate productivity (moose and deer); potable water abundant; transportation routes; lithic raw materials (Entiako River area)	Habitation; subsistence feature; cultural materials; trail; human remains; pictograph	High - Moderate
Plateaus with Small Lakes	Between Entiako River and Euchu - Tetachuk Lakes; between Euchu - Tetachuk Lakes and Ootsa Lake; between Ootsa - Cheslatta Lakes and Francois Lake; between Endako River and Pinkut Lake; Sutherland River drainage; Fleming Creek drainage	Moderately productive salmon fisheries; moderately productive freshwater fisheries; high to moderately ungulate productivity (moose, deer, and caribou); potable water abundant; some transportation routes	Subsistence feature; cultural materials; habitation; human remains; trail; pictograph	Moderate - High
Plateaus without Small Lakes	West edge of sub-region N of Tetachuk Lake; S of Ootsa Lake; between Francois Lake and Endako River; between Endako River and Babine Lake; between Uncha Lake and Endako River; N and S of Taltapin Lake; S of Sutherland River; W of Fleming Creek	Low productivity salmon and freshwater fisheries; moderate to low ungulate productivity (moose, deer, and caribou); some potable water; some transportation routes	Subsistence feature; cultural materials; trail	Unproven - Moderate
Montane Passes	Uduk Lake; headwaters of Gullwing Creek; Nez Lake locality; headwaters of Foxy Creek	Overland transportation routes; no salmon or freshwater fisheries; moderate to low ungulate productivity (moose and deer); some potable water	Cultural materials; trail	Moderate - Unproven
Montane - Alpine	Northern end of sub-region; N and S of Taltapin Lake; W edge of sub-region S of Endako River; between Cheslatta and Uncha Lakes	No salmon or freshwater fisheries; low ungulate productivity; some travel routes; some potable water	Trail; cultural materials	Unproven - Low

or thoroughly inventoried for archaeological sites. A few areas within some subregions, such as Carp Lake and Punchaw Lake in the Prince George LRMP subregion, and parts of Babine Lake in the Lakes LRMP subregion have been adequately examined. In most areas, however, the actual thoroughness of coverage cannot be stated with certainty, and large tracts of each subregion remain archaeologically unexamined.

Although some survey for research purposes has taken place in the study area (e.g., Borden 1952; Bernick and Clark 1977), most of the archaeological inventories were initiated as part of impact assessments for proposed land developments. Most of these assessments have centred on major river valleys and lakes where settlement and development is predominant. Secondary river valleys and minor lakes have received some (but inconsistent) inventory coverage, whereas the coverage of montane areas is virtually non-existent. Consequently, archaeological sites away from main river and lakes are conspicuously absent in the current inventory. This is particularly true for alpine parkland and high elevation mountain passes, both of which probably have considerable archaeological potential. Our understanding of the nature, frequency, spatial distribution, and antiquity of montane archaeological sites, and sites away from major river and lakes is inadequate, and severely hinders our ability to predict site locations in these parts of the study area.

7.2 Site Type Coverage

Most of the archaeological surveys carried out in the study area have been non-systematic in method, and have focused either on highly-visible archaeological site types such as pithouse villages, or on high potential locations with a restricted range of archaeological sites or archaeological resource types. As a result, some types of archaeological sites and resources are not well represented in the current site inventory. For example, although a number of archaeological fish weirs have been recorded, survey coverage of water bodies for submerged remains has received only passing attention. Types of archaeological resources expected but infrequently or never recorded include: pictographs; petroglyphs; stone quarries; defensive sites (fortifications); culturally modified trees (primarily lodgepole pine and other trees stripped for cambium); burial sites of various kinds; wooden weirs in creeks and lakes; trails; camps and resource sites away from major rivers and lakes; very old sites associated with ancient landforms such as glacial lake beaches; upland ungulate hunting sites; and most types of historic archaeological sites.

7.3 Past Environmental Information

While not directly a gap in archaeological information, the scarcity of information about past environments in the study area represents a major barrier to the understanding how people lived on the land in the distant past. This, in turn, limits our ability to predict site locations and to assess site potential for those periods in the past when environmental conditions were substantially different than in the last few centuries. Studies in the Kootenays and elsewhere in British Columbia suggest that human adaptations to different environmental conditions in the distant past may have been very unlike the adaptations recorded at the time of first contact with Europeans. Within the study area, the extent to which prehistoric human adaptations to previous environmental conditions differed from those recorded historically remains to be determined, and represents a major gap in archaeological knowledge.

7.4 First Nations Participation

All First Nations with an interest in the study area were, to the best of our knowledge, contacted at the start of this study. Those that responded beyond acknowledgement of receipt of our correspondance indicated that they did not wish to consult with us, nor participate in the study, because of the concern that consultation and participation would prejudice their land claims and treaty negotiations (see Section 2.2). The lack of consultation and participation was a significant limitation to the present overview because it prevented access not only to archaeological site locations known to First Nation people, but also to traditional use site information not in the public record and potentially important to archaeological model building.

8.0 RECOMMENDATIONS FOR FUTURE RESEARCH

One of the objectives of this study is the preparation of recommendations for further archaeological assessment studies. The purpose of such assessment studies would be to improve our ability to predict archaeological site locations and distributions in the study areas, and to improve our ability to accurately assess archaeological potential. These recommendations are intended to facilitate resource management and land use decision making, and are not designed to expand the archaeological inventory of the study area for its own sake.

To address the gaps in geographic and site type coverage in the existing site inventory as defined in Sections 7.1 and 7.2, we recommend that:

(1) Future inventory related research in the study area be oriented toward improving geographic coverage to include: montane passes, alpine parkland, and ancient landforms throughout all five LRMP Subregions; stream valleys in the Robson LRMP Subregion; plateaus without small lakes in the Prince George, Vanderhoof, Fort St. James and Lakes LRMP Subregions; and terraces without small lakes in the Prince George LRMP Subregion. Emphasis should be placed on areas considered to have unproven archaeological potential.

(2) Future site investigations be oriented toward improving our understanding of (i) historic and traditional travel routes; (ii) lithic raw material sources; (iii) past environments and their effect on human adaptation; and (iv) the initial settlement of the study area by Native people in the immediate post-Glacial period.

To address the lack of participation by First Nation groups in these overview studies and similar studies, we recommend that:

(3) First Nations and the BC Government establish a protocol that will permit First Nations to participate in future LRMP studies and similar planning studies without prejudicing First Nation land claims or treaty negotiations.

9.0 CONCLUDING REMARKS

In conclusion, we would like to offer a few brief closing comment on the study.

Firstly, because of the gaps that exist in the information that is currently available about the archaeological resources of the study area, the present digitized maps and associated datasets represent *initial* rather than final statements of known and predicted archaeological resources in the study area. As the inventory of known archaeological sites is expanded, and a more robust predictive model is developed, it will become particularly important to update both the maps and the datasets. However, as with most studies of this kind, there will be a tendency to treat the results of the Overview, particularly the potential mapping, as definitive.

Secondly, this study is an archaeological and not a traditional use site overview. Although traditional use information and site locations in the public record were used to develop a model of archaeological site potential, this overview does not attempt to map the location of known traditional use sites, or to show the potential for such sites in different parts of the study area. The digital maps and linked databases do not include information on traditional use sites. Some traditional activities such as berry picking, medicine collecting and spritual practices leave little or no archaeological evidence. Because some kinds of activity do not leave archaeological evidence, a low archaeological potential rating for an area should not be interpreted to mean that the area was not used traditionally. Traditional Use Studies are intended to address the nature and location of traditional use in an area.

Thirdly, low archaeological potential is not the same as nil potential. All parts of the subregion, except for totally disturbed areas such a open pit mines, have at least some potential for archaeological sites. Also, unproven potential is not the same as low potential. Future research could reveal these poorly understood areas to be of high, medium or low archaeological potential.

Lastly, the maps associated with this study were prepared at a scale of 1:250,000. These maps are intended for strategic level planning and should not be used for operational decision making. Archaeological potential maps at scales of 1:50,000 and 1:20,000 are better suited for such purposes.

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